

PETER G. SHIELDS, M.D.

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STATE OF NORTH CAROLINA                      IN THE GENERAL  
NEW HANOVER COUNTY                      COURT OF JUSTICE  
  
   SUPERIOR COURT  
  
   DIVISION  
  
   FILE NO. 07CVS 4453

CATHY BATTON, Executrix                      \*  
of the Estate of Dewey                      \*  
Batton, Deceased                      \*  
                                 Plaintiff                      \*  
                                 vs.                      \*  
CSX TRANSPORTATION, INC.                      \*  
                                 Defendant                      \*

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Deposition of PETER G. SHIELDS, M.D.,  
taken on Friday, September 26, 2008, beginning  
at 9:00 a.m., at Lombardi Comprehensive Cancer  
Center, Georgetown University Medical Center,  
3800 Reservoir Road. N.W., Washington, D.C.,  
before Linda Ann Crockett, a Notary Public.

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Reported by:  
  
Linda A. Crockett

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1 APPEARANCES:

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On behalf of the Defendant

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1 THE PROCEEDINGS

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3 STIPULATIONS

4 It is stipulated and agreed by and between  
5 counsel for the respective parties that the  
6 reading and signing of this deposition by the  
7 witness is hereby not waived.

8 - - - - -

9 PETER G. SHIELDS, M.D.,

10 first duly sworn to tell the truth, the whole  
11 truth, and nothing but the truth, testified as  
12 follows:

13 EXAMINATION BY MR. FRIELING:

14 Q. Good morning.

15 A. Good morning.

16 Q. My name is Scott Frieling. We met off  
17 the record. We have not met before; is that  
18 true?

19 A. That's correct.

20 Q. Have you been deposed before, Doctor?

21 A. Yes.

22 Q. How many times, roughly?

23 A. Somewhere between 10 and 20.

24 Q. Just so you know, if you need a break  
25 at any time, just let me know. If you don't

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1 understand my question, just ask me to rephrase  
2 it and I'll do so. Okay?

3 A. Okay.

4 Q. What did you bring with you today?

5 A. I have a copy of my report. I have  
6 some research articles. I have Dr. Omalu,  
7 O-M-A-L-U, his report. I have a two-page  
8 exposure history summary provided to me by  
9 Mr. Gordon, a pathology report by Dr. Banks.

10 Q. I can attach all of these, I assume?

11 A. Yes, you can attach every one.

12 MR. FRIELING: I brought a copy of the  
13 report to attach as Exhibit 1.

14 (Whereupon, Shields Deposition Exhibit  
15 No. 1, report of Dr. Shields; No. 2,  
16 medico-legal report from Dr. Omalu; No. 3,  
17 surgical pathology report; No. 4, exposure  
18 history summary; and No. 5, stack of medical  
19 articles, marked.)

20 MR. FRIELING: Exhibit 4 is going to  
21 be the exposure history. That's the title of  
22 the document. I just want to let the court  
23 reporter know that it is double-sided, and  
24 therefore, should be copied accordingly. It's  
25 okay if the exhibit is not double-sided.

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1 Actually, several of these exhibits are  
2 double-sided.

3 Exhibit 5 is a stack of medical  
4 articles produced by Dr. Shields today. I'm  
5 going to attach them collectively.

6 BY MR. FRIELING:

7 Q. So Exhibit Number 1, that's a copy of  
8 your report in this case?

9 A. Yes, it is.

10 Q. And there's some handwriting in the  
11 top right-hand corner; is that your  
12 handwriting?

13 A. That's my handwriting.

14 Q. What does it say?

15 A. Dewey Batton depo, Banks report, Huitt  
16 report, either Albans or Albers report; I'm not  
17 good with my own handwriting sometimes. Cathy  
18 Batton depo and the Omalu depo.

19 Q. What are those notations?

20 A. Other things that I have reviewed  
21 relevant to this case.

22 Q. Exhibit 2, tell us what that is?

23 A. The July 14, 2008 report from  
24 Dr. Bennet Omalu.

25 Q. Have you also reviewed his autopsy

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1 findings?

2 A. Yes, I have.

3 Q. You don't have a copy of that report?

4 A. Not with me.

5 Q. Exhibit Number 3, tell us what that  
6 is, sir?

7 A. This is the report from Dr. Banks,  
8 date of service was 7-29-08 and the date  
9 reported was 8-27-08.

10 Q. And Exhibit 4, can you tell me what  
11 that is, please?

12 A. This is a summary of several  
13 depositions that provide testimony regarding  
14 the potential exposures for Dewey Batton.

15 Q. And Exhibit 5 -- let's stay with  
16 Exhibit 4 for a second. This was provided to  
17 you by CSX attorneys?

18 A. Mr. Gordon.

19 Q. And Mr. Gordon is a CSX lawyer?

20 A. I think that's true.

21 Q. Did you have any input into the  
22 creation of that document there?

23 A. No.

24 Q. Did you read those depositions that  
25 are cited in this?

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1 A. Some of them.

2 Q. Tell me which ones, please.

3 A. Actually, I read the one from Dewey  
4 Batton.

5 Q. So you read Dewey Batton's deposition  
6 in this case?

7 A. That's correct.

8 Q. Any others?

9 A. I read one other, which I neglected to  
10 put on the top of my report. At this point  
11 some of the details are coming together. So I  
12 would only be guessing at which one I read.

13 Q. So you believe you read another -- was  
14 it a co-worker deposition?

15 A. It was a co-worker deposition,  
16 correct.

17 Q. You believe you read another co-worker  
18 deposition, but you don't remember whose it  
19 was?

20 A. That's correct.

21 Q. And the summary that's in front of you  
22 right now provided to you does not refresh your  
23 recollection which one it was?

24 A. No. Some of the details are coming  
25 together for me. But I don't want to guess.

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1           Q.   What do you mean when you say some of  
2 the details are coming together for you?

3           A.   In terms of what he did while working  
4 for CSX and what the testimony was across the  
5 different depositions.

6           Q.   Do I understand you to be saying that  
7 some of these things kind of overlap and you  
8 just can't remember which person said what?

9           A.   That's correct.

10          Q.   Exhibit 5 is a stack, as we mentioned,  
11 the medical articles?

12          A.   Yes, these are scientific  
13 publications.

14          Q.   Are these articles cited in your  
15 report?

16          A.   I believe every one is cited in my  
17 report, correct.

18          Q.   Did the defense lawyers in this case  
19 provide you with any of those articles?

20          A.   No. I did all of my own primary  
21 research.

22          Q.   Did they tell you to look for any  
23 specific articles?

24          A.   No. There were a list of articles  
25 that were provided by Dr. Omalu, as well as a



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1 list of articles that the attorneys thought you  
2 all believed were relevant to this case. But I  
3 had had virtually all of those articles that  
4 were primary research.

5 Q. If I understand you correctly, all of  
6 the research that's included in your reference  
7 list was your own work, true?

8 A. Yes.

9 Q. You said you've been deposed 10 to 20  
10 times. Can you tell me what kind of cases  
11 those were?

12 A. They're pretty much all related to  
13 cancer, although some of them will have  
14 additional themes around cancer, but my  
15 involvement in the cases were all cancer-  
16 focused. They are all involved in the toxic  
17 tort or chemical/carcinogen exposure category.  
18 They are for both defense and plaintiffs, and  
19 they represent a variety of settings, ranging  
20 from railroad exposures for workers,  
21 environmental exposures in communities. I have  
22 been involved in a number of tobacco company  
23 cases, looking at the toxicity, toxicology and  
24 carcinogenicity, as well as behavior for  
25 tobacco products.

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1 Q. That's a good summary. Have you  
2 testified in trial?

3 A. Yes.

4 Q. How many times have you done that?

5 A. I believe four times.

6 Q. What type of cases were those?

7 A. Two of them were defense; two of them  
8 were plaintiff. One was an asbestos and  
9 mesothelioma case. One was a class action suit  
10 against the Philip Morris tobacco company.  
11 Another was a case of a woman who was afraid of  
12 getting cancer following alleged exposure to  
13 PCBs. And the fourth case was relating to an  
14 alleged environmental exposure down in Texas  
15 for a woman who developed gastric cancer.

16 Q. So am I correct, the two plaintiffs  
17 that you testified on behalf of were the  
18 mesothelioma case, yes?

19 A. That's one of them.

20 Q. And the other would be the tobacco  
21 plaintiff case?

22 A. That's correct.

23 Q. And so the two defense cases would  
24 have been the PCB case and the gastric cancer,  
25 I think is what you said?

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1 A. Yes.

2 Q. Do PCBs cause cancer in humans?

3 A. We don't have any measurable and  
4 sufficient evidence for that.

5 Q. So in your opinion today PCBs, there's  
6 not sufficient evidence to conclude that PCBs  
7 cause cancer in humans, true?

8 A. That's correct.

9 Q. What is IARC's positions on whether  
10 PCBs cause cancer in humans?

11 A. They list that as probably human  
12 carcinogens, one or two grades below known  
13 carcinogens.

14 Q. Is it one or two?

15 A. I don't remember offhand.

16 Q. Do you agree that PCBs are probably a  
17 carcinogen?

18 A. It depends on the framework that  
19 you're referring to.

20 Q. You can't answer my question?

21 A. Not the way you phrase it.

22 Q. What's the National Toxicology  
23 Program's view about PCBs?

24 A. I don't remember the designation  
25 offhand, but it is something similar to IARC's

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1 designation.

2 **Q. Do you agree with NTP's position?**

3 A. Again, it depends on the context of  
4 the question that you're asking.

5 **Q. What do you mean by that?**

6 A. If you're talking about from a  
7 regulatory and risk assessment perspective,  
8 that's one way to look at it. If you're  
9 talking about whether it's really causing  
10 cancer in people, that's a different issue.

11 **Q. Is NTP a regulatory?**

12 A. NTP collects data for use in  
13 regulatory studies, yes.

14 **Q. So is NTP a regulatory?**

15 A. I don't think so, no.

16 **Q. Is IARC a regulatory?**

17 A. No, it's not.

18 **Q. You've testified for the railroad**  
19 **before this case?**

20 A. Yes.

21 **Q. Tell me about that.**

22 A. In depositions, as --

23 **Q. Can I stop you?**

24 A. Sure. I've testified as an expert  
25 witness in a few cases on behalf of the

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1 railroad and also the trial that I testified  
2 for for the gastric cancer was also on behalf  
3 of one of the railroads.

4 **Q. Have you worked for Mr. Gordon's**  
5 **office before?**

6 A. I don't believe so.

7 **Q. What did the other railroad cases that**  
8 **you were deposed in, what were the allegations**  
9 **in those cases?**

10 A. Well, they were all cancer  
11 allegations. And the types of cancers run the  
12 gamut from hematologic cancers, I believe a  
13 couple of solid cancers as well.

14 **Q. Including this case, in how many cases**  
15 **have you testified on behalf of the railroad**  
16 **before?**

17 A. I would be guessing. Certainly more  
18 than five. Maybe ten.

19 **Q. Some of them were blood cancers?**

20 A. Hematologic.

21 **Q. What kind of hematologic?**

22 A. Multi-myeloma, leukemia, lymphomas.

23 **Q. Do you recall how many multiple**  
24 **myelomas?**

25 A. Not offhand.

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1 Q. How about leukemias?

2 A. That I would be just guessing.

3 Q. The same with lymphoma?

4 A. Yes.

5 Q. Have you ever come to the conclusion  
6 that a railroad worker in one of those cases  
7 had some occupational exposure that caused or  
8 contributed to their disease?

9 A. I believe my testimony for all of them  
10 was that their cancers were not work-related.

11 Q. We talked about your trial testimony a  
12 moment ago. Do you recall that?

13 A. Yes.

14 Q. You mentioned a couple cases that you  
15 did on behalf of plaintiffs. What other cases  
16 have you done on behalf of plaintiffs that you  
17 were deposed on, if any?

18 A. Yes, there were. I have been deposed  
19 in a consumer fraud case against RJ Reynolds.  
20 I have been deposed in another class action  
21 suit against RJ Reynolds. I was deposed in a  
22 civil RICO case. In that case I had the  
23 opportunity to be deposed by the attorneys of  
24 all five major tobacco companies at the same  
25 time.

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1 Q. So you've been deposed in some tobacco  
2 cases that you've testified on behalf of  
3 plaintiffs, true?

4 A. That's correct.

5 Q. Any other chemical of interest besides  
6 tobacco that you provided testimony on behalf  
7 of plaintiffs, and I understand you did testify  
8 in an asbestos case, true?

9 A. Yes, that's correct.

10 Q. Any others?

11 A. Not that I'm recalling.

12 Q. How many times do you think, an  
13 estimate is fine, that you've testified on  
14 behalf of plaintiffs in tobacco cases?

15 A. Well, I think the list I just gave you  
16 is complete. So we'd have to count.

17 Q. I had four down. Four plus the one at  
18 trial.

19 A. That sounds about right.

20 Q. Did you give a deposition in that  
21 asbestos case?

22 A. I don't believe so.

23 Q. What was your testimony?

24 A. That chrysotile asbestos contributed  
25 to the plaintiff's mesothelioma.

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1 Q. Do you believe chrysotile causes  
2 mesothelioma in humans?

3 A. I believe it can.

4 Q. Have you provided testimony in cases  
5 where a plaintiff has alleged benzene exposure  
6 caused their illness?

7 A. Yes.

8 Q. How many times?

9 A. I'd say about a handful.

10 Q. Is that four?

11 A. More or less. Four, maybe six.

12 Q. In each of those cases did you  
13 conclude that the person's exposure did not  
14 cause their disease or illness?

15 A. Well, every one of those cases lacked  
16 evidence of benzene exposure, if I remember  
17 correctly. And in every one of those cases I  
18 did testify that I did not believe their  
19 cancers were work-related.

20 Q. So in each one of those cases where  
21 someone alleged benzene exposure and that  
22 benzene exposure resulted in some illness, you  
23 concluded otherwise, true?

24 A. Well, the claim was that benzene was  
25 part of an exposure contained in diesel exhaust



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1 or some solids, or something like that. And in  
2 those cases I provided opinions similar to what  
3 I'll be providing here, which is that you have  
4 to look at what they were exposed to, not what  
5 you theoretically are guessing what they were  
6 exposed to.

7 MR. FRIELING: I'm going to object to  
8 the nonresponsive portion.

9 Q. But in each of those cases you  
10 concluded that benzene did not contribute to  
11 the disease parameters, true?

12 A. In each of those cases I said there  
13 was no documentation of exposure to benzene, so  
14 it was hard to make an opinion either way.

15 Q. So in each case where someone's  
16 alleged benzene exposure that you've testified  
17 in, you've concluded that there was no  
18 sufficient evidence that they were exposed to  
19 benzene, true?

20 A. That's correct.

21 Q. I want to attach next a copy of your  
22 CV, at least the one that I have. Tell me if  
23 that's current?

24 (Whereupon, Shields Deposition Exhibit  
25 No. 6, curriculum vitae, marked.)

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1       A. It's not current. This gets updated  
2 maybe every two or four weeks.

3           MR. FRIELING: Frank, can I get a  
4 current one?

5           MR. GORDON: Sure. Do you want it  
6 right now?

7           MR. FRIELING: If you've got one.  
8 This one is dated July 25.

9           MR. GORDON: That's the one I have.

10          MR. FRIELING: Can we get one from the  
11 doctor?

12          MR. GORDON: Now or later?

13          MR. FRIELING: Later.

14          MR. GORDON: Yes.

15 BY MR. FRIELING:

16       **Q. I want to talk about your practice**  
17 **currently, and I want to do that kind of in**  
18 **conjunction with looking through your CV. Is**  
19 **that a correct copy of your CV as of July 25,**  
20 **2008?**

21       A. It has 36 pages without flipping  
22 through to make sure that every page is here --

23       **Q. I can tell you that's what was**  
24 **produced to us.**

25       A. It looks like it's complete.

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1 Q. As of July 25, 2008, true?

2 A. That's correct.

3 Q. So tell me what a typical week is for  
4 you, Doctor?

5 A. I'm chuckling. A typical week  
6 probably includes at least 50, maybe 80 hours  
7 of work, in addition to family time. So I see  
8 patients; I supervise a large laboratory staff;  
9 I provide research administrative management  
10 and mentoring; I serve on a number of  
11 committees for both the university as well as  
12 outside organizations; I'm involved in some  
13 administrative roles here.

14 Q. So I guess what I'm looking for is,  
15 you get up in the morning and you come here,  
16 about what time is it?

17 A. If I could rephrase your question. I  
18 get up in the morning around 4:00 and I'll work  
19 for several hours and then I'll come in.

20 Q. Do you work at home?

21 A. Yes, I tend to work equal the amount  
22 at home as I do here.

23 Q. So you work a couple hours when you  
24 get up. What do you do during that time  
25 period?

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1 A. I work at least a couple of hours when  
2 I get up, or I'm up late the night before.  
3 It's usually one or the other. I'm doing  
4 research; I'm reviewing research articles,  
5 writing papers, writing grants, reviewing  
6 litigation cases, such as this one. I'll spend  
7 an hour or two answering e-mails and giving  
8 thought to them, helping other people do their  
9 research.

10 **Q. Then you come into work at some point?**

11 A. That's correct.

12 **Q. What do you do?**

13 A. It depends on the day. Typically my  
14 days have meetings or activities every 30 to 60  
15 minutes. They could be on a Monday I start off  
16 meeting with some of the faculty and the  
17 medical residents and review all of the medical  
18 cases from over the weekend. Then I actually  
19 have a half hour break. And then I have a  
20 conference call with other investigators, the  
21 National Cancer Institute and the tobacco  
22 companies grants we have.

23 After that I'm meeting with the  
24 post-doctoral and pre-doctoral fellows, meeting  
25 with collaborators up in Buffalo for breast

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1 cancer, or a basic science team here where we  
2 have a synergy meeting. Noon on Mondays I  
3 think are generally free. They may get filled  
4 up with something.

5           Then at 1:00 I meet with the chief of  
6 staff at the hospital, as well as one of the  
7 chief administrators and the chief of service  
8 for the department of medicine. It usually  
9 goes until about 2:30. If I'm lucky I have a  
10 half hour break. At 3:00 still a break. At  
11 3:30 I have a conference call with a breast  
12 cancer screening clinic that I run. At 4:00 or  
13 4:30 there's a meeting either with other senior  
14 leaders here at the cancer center, or there's a  
15 conference call. That's Mondays.

16           Tuesdays are mostly patient days or  
17 clinic days, from about 9:00 until 1:00 or so.  
18 Clinical team of investigators who are doing  
19 clinical trials. At 2:15 it's either free or  
20 the other weeks I have a conference call with  
21 investigators on tobacco studies. And then the  
22 afternoon is regularly scheduled meetings,  
23 depending on who needs to see me. That's  
24 Tuesdays.

25           **Q. How often in your week do you see**

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1 patients?

2 A. At least every Tuesday. And then it  
3 depends on whether I need to see a patient for  
4 some reason other than that. It also depends  
5 on when I'm on hospital service. I do that  
6 several months a year. For example, in October  
7 in that schedule I have to add an additional 2  
8 or 3 hours a day so I can round at the  
9 hospital.

10 Q. In what capacity do you see patients?

11 A. I guess I'm not sure what that  
12 question is. I'm their physician.

13 Q. Are you their primary treating  
14 oncologist?

15 A. More often it's hematology. And then  
16 the answer would be yes. In the hospital  
17 service then we also do consultations for  
18 patients that may not be minor, they may be  
19 patients of other hematologists or oncologists  
20 in our department. We have a division of about  
21 20-some-odd hematologists, oncologists.

22 Q. Are you board certified in hematology?

23 A. Actually, I'm not any longer board  
24 certified in hematology. I'm board certified  
25 in oncology. I was board certified in

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1 hematology. I never got around to redoing the  
2 boards. They expire after ten years.

3 **Q. So you took board exam when?**

4 A. I think the hematology board I  
5 believe -- well, it's on my CV.

6 **Q. Feel free to look at it, please.**

7 A. I was board certified in oncology in  
8 1989 and in hematology in 1990.

9 **Q. And you're looking at Page 2 there?**

10 A. That's correct.

11 **Q. Are you board certified in forensic**  
12 **pathology?**

13 A. No.

14 **Q. Do you know what that is?**

15 A. I know conceptually what it is, yes.

16 **Q. What is it?**

17 A. It's -- did you say forensic  
18 pathology?

19 **Q. Yes.**

20 A. So it's a specialty that looks at  
21 tissues from people and makes a diagnosis.

22 **Q. And you're not board certified in**  
23 **pathology, true?**

24 A. That's correct.

25 **Q. Have you ever sat for either of those**

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1 exams?

2 A. No.

3 Q. Have you ever sat for any other board  
4 exams other than oncology, hematology, and of  
5 course, internal medicine?

6 A. That's right.

7 Q. That's it?

8 A. That's right.

9 Q. What is pathology, more generally?

10 A. Pathology is the study of tissues and  
11 fluids to make diagnoses.

12 Q. And that's not your area of expertise?

13 A. I am not a board certified  
14 pathologist, no.

15 Q. Is there a board certification  
16 available for occupational medicine?

17 A. I believe there is.

18 Q. You haven't taken that, have you?

19 A. No.

20 Q. And what is occupational medicine?

21 A. It's a specialty that looks at  
22 diseases in workers.

23 Q. Workers who may be exposed to  
24 different things while doing their job, yes?

25 A. That would include that, and there are



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1 other aspects of the occupational medicine  
2 practice as well.

3 Q. Workers who may have joint or muscle  
4 problems from repetition in their job?

5 A. That's right, that's an example.

6 Q. I reviewed your CV, obviously, you  
7 seem to have -- you don't seem to, you have a  
8 strong background in molecular epidemiology,  
9 true?

10 A. That's correct.

11 Q. Have you done any original research in  
12 epidemiology as opposed to molecular -- human  
13 epidemiology studies?

14 A. I don't understand that question.

15 Q. As a lawyer who has been doing this  
16 for a long time, I think of epidemiology in  
17 terms of cohort studies, workers who have been  
18 exposed to certain substances, statistical  
19 things to determine incident rates, that kind  
20 of thing. Have you done any of that type of  
21 work as opposed to molecular?

22 A. I guess I still don't understand that.  
23 Maybe you don't understand the difference  
24 between epidemiology and molecular  
25 epidemiology.

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1           **Q. That's certainly possible. Why don't**  
2 **you tell me what molecular epidemiology is.**

3           A. What you just described for  
4 epidemiology is more like epidemiology. I  
5 mean, where we are today, I think what you're  
6 trying to refer to is the old way we used to do  
7 epidemiology which was sort of black box  
8 associations. Most researching epidemiologists  
9 today understand that they have the tools  
10 available to understand biological hypotheses  
11 in epidemiology. That's what we do now,  
12 whether it's a cohort study or a case control  
13 study. We're investigating biological  
14 hypotheses usually with some sort of biomarker.  
15 So the jargon over time has been called  
16 molecular epidemiology but in fact, in many  
17 cases we just dropped that qualifier of  
18 molecular. We just call ourselves  
19 epidemiologists.

20           **Q. Have you studied a worker cohort or**  
21 **something like that to determine whether they**  
22 **were at risk for anything based on exposures?**

23           A. I have done that, yes.

24           **Q. Can you tell me where? Take a look at**  
25 **your CV and let me know.**

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1 A. Obviously, there have been studies  
2 where the workers, we actually did not publish  
3 the paper. So there will be studies that will  
4 be in addition to the CV.

5 Q. While you're looking, do you have a  
6 degree in epidemiology?

7 A. No, I don't. So there's a number of  
8 lung cancer studies that we've done, and I can  
9 give you the numbers, where it's one study that  
10 we've looked at a number of different  
11 biomarkers. In that study we routinely look at  
12 the work histories provided to us by  
13 questionnaires.

14 Q. Are those studies of occupational  
15 exposures to tobacco smoke?

16 A. No.

17 Q. I'm asking about occupational  
18 exposures?

19 A. Yes, and my answer was about that.

20 Q. I don't understand. What do you mean?

21 A. Well, we have and we continue to  
22 publish from a large lung cancer study that was  
23 conducted in Baltimore and as part of that  
24 study we collected data on the study subjects'  
25 work histories, and depending on the biomarker

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1 and the research question we have, we will look  
2 at that occupational data as well.

3 Q. So are you saying that in the  
4 Baltimore lung cancer study you're looking for  
5 occupational causes of lung cancer, at least  
6 potentially?

7 A. In that study, that's correct.

8 Q. Like what?

9 A. Like which occupations?

10 Q. Like what types of exposures.

11 A. The questionnaire is about an hour,  
12 hour and a half, and it has probably ten  
13 minutes worth of questions like were you  
14 exposed to this or that or what's your usual  
15 work title and industry, what did you do before  
16 that? There's a lot of data that's actually  
17 collected.

18 Q. You're going to examine their work  
19 history information in order to determine  
20 whether there are any associations between that  
21 work history and lung cancer?

22 A. That's right.

23 Q. And what was that on your CV, Doctor?

24 A. Any of the papers -- not all of the  
25 papers would have necessarily indicated data

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1 that was collected and analyzed related to the  
2 worker data. You were asking about studies.  
3 In that --

4 **Q. Let's talk about publications. Can**  
5 **you just pinpoint those for me. I'm interested**  
6 **in peer-reviewed publications.**

7 A. Did you limit it to epidemiology  
8 studies?

9 **Q. That's right.**

10 A. Because there are other publications  
11 obviously in medicine journals.

12 So there's a number of papers that  
13 deal with environmental exposures and also  
14 several review papers on here that deal with  
15 the occupational setting in particular. And I  
16 was also mentioning before the lung cancer  
17 study. We also have a breast cancer study in  
18 upstate New York where we're looking at the  
19 environment as well as occupational data as  
20 well. In both of those studies I don't recall  
21 whether the occupational data analysis had  
22 actually gotten into peer-reviewed papers.

23 **Q. The question is I'm looking for**  
24 **peer-reviewed papers, publications, that**  
25 **involve the epidemiology of occupationally**

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1 **exposed persons?**

2 A. So we have -- there's a paper on the  
3 medical surveillance in PCB-exposed persons.

4 **Q. Can you give me the number?**

5 A. Number 2, which if I recall correctly  
6 was a peer-reviewed paper.

7 **Q. What page?**

8 A. 24.

9 **Q. In your bibliography, which starts on**  
10 **Page 12, it starts peer-reviewed papers?**

11 A. Yes. That's interesting. Because  
12 it's not actually labeled correctly, because it  
13 should be peer-reviewed research publications.  
14 Because if you look at -- I have to change  
15 that. If you look on Page 24 it actually says  
16 review papers, editorials and book chapters,  
17 including peer-reviewed papers.

18 **Q. Let's start on Page 12. You have the**  
19 **question in mind. I'm looking for**  
20 **peer-reviewed research publications involving**  
21 **epidemiology of occupationally exposed persons?**

22 A. So, as I mentioned for both the lung  
23 cancer study that we've done as well as the  
24 breast cancer study, we have looked at a number  
25 of occupational-related hypotheses. Whether

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1 they have gotten into any of these papers or  
2 not, I can't recall offhand.

3 Q. You can't point me to one specific  
4 paper that deals with these issues?

5 A. Some of these papers were published  
6 10, 15 years ago. Not offhand, no.

7 Q. Did you say page 24?

8 A. That's right.

9 Q. Let's go to Page 24. There's a title  
10 here "review papers, editorials and book  
11 chapters."

12 A. That's right.

13 Q. Now, is this titled correctly?

14 A. Yes.

15 Q. Now, is there anything under here in  
16 this section that would qualify as a  
17 peer-reviewed paper that deals with  
18 epidemiology of occupationally exposed persons?

19 A. Number 2, quite frankly, I think was  
20 peer-reviewed. But it may not have been.  
21 Number 4 I'd have to go back and look. The  
22 title is environmental cancer, but I think we  
23 also brought up occupational exposures there as  
24 well. That was definitely peer-reviewed. That  
25 was in the Journal of the American Medical

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1 Association. I would have to go back both to  
2 the primary articles as well as the review  
3 articles that deals with polycyclic aromatic  
4 hydrocarbons that's present in tobacco smoke.  
5 It's also an environmental exposure.

6 **Q. Do PAHs cause cancer in people?**

7 A. At sufficient exposures.

8 **Q. Lung cancer?**

9 A. That's correct.

10 **Q. Anything else?**

11 A. And skin cancer.

12 **Q. Any others here that you can identify**  
13 **today?**

14 A. Number 17 I'm pretty sure was  
15 peer-reviewed. Again, some of these were  
16 published more than ten years ago. So I'd have  
17 to look to see if they have specific occupation  
18 sections on them. I think they do, so that's  
19 why I'm giving them to you. Maybe number 20,  
20 number 24, number 29. Number 29 may not have  
21 been peer-reviewed; I'm not sure about that.

22 So some of the book chapters that I  
23 wrote certainly had peer reviews, and we got  
24 editorial comments back, but that would be by  
25 the editor. So I've published in several



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1 editions in the textbook called Cancer  
2 Principles and Practice of Oncology, and I've  
3 been coauthoring the paper with Stuart Yuspa on  
4 the principles of carcinogenesis, and those  
5 routinely deal with occupational --

6 **Q. Were you looking at a specific number**  
7 **there or --**

8 A. There are several. I'm looking at 18,  
9 for example. But we have published in  
10 subsequent editions.

11 **Q. These are book chapters?**

12 A. That's right. And we get extensive  
13 edits back from the editor.

14 **Q. That's the peer-reviewed process in**  
15 **that situation?**

16 A. Yes. It depends on how you want to  
17 define peer review, of course, because we know  
18 who is giving us the comments. It's not a  
19 blinded peer review. And 33 goes into that  
20 category as well.

21 **Q. And that would have epidemiology**  
22 **regarding occupationally exposed people?**

23 A. Yes. Number 40, I don't recall either  
24 way whether that was peer-reviewed. That's a  
25 workshop summary. So sometimes they're not

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1 peer-reviewed. It was for applying  
2 biotechnologies to the study of occupational  
3 cancer. Number 48. Number 49 was an editorial  
4 that I wrote and the senior editor gave  
5 extensive comments, so that was peer-reviewed,  
6 but not blinded. And Number 42 was the book  
7 chapter.

8 **Q. I'm not interested in the**  
9 **presentations.**

10 A. Right. I was looking at the book  
11 editor. I was an editor in the book  
12 "Carcinogens in the Workplace," as well as  
13 "Cancer Risk Assessment", and "Molecular  
14 Epidemiology of Cancer." There were chapters  
15 in those books on occupational risks as well.

16 **Q. What I'd like for you to do is go back**  
17 **to page 12 and tell me if you published**  
18 **anything regarding the epidemiology of**  
19 **benzene-exposed populations. I notice, I think**  
20 **there was one here, and it involved heated**  
21 **cooking oil vapors, I guess that volatilized**  
22 **benzene in some way?**

23 A. That's correct.

24 **Q. I don't remember what number it was.**  
25 **Any others?**

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1 A. Well, there were at least two  
2 publications related to that study. But that  
3 was not occupational. That was a study of  
4 women in the homes in China who were pretty  
5 substantially exposed to these heated cooking  
6 oil vapors.

7 Q. What cancer did that look at, that  
8 study?

9 A. We were actually looking at  
10 documenting the exposures and what were the  
11 effects on short-term biomarkers. We were  
12 involved in a larger study of lung cancer, but  
13 that data never got published.

14 Q. Does benzene cause lung cancer in  
15 humans?

16 A. I don't think we have the evidence to  
17 make that conclusion.

18 Q. So any other -- and I'm interested in  
19 occupational exposures. And Doctor, I want to  
20 do the same thing with solvents and mineral  
21 spirits. So if you can do that collectively.

22 A. I'll have to go back to Page 12. So  
23 you're talking benzene, solvents and mineral  
24 spirits?

25 Q. Correct.

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1       A. For the first group of papers while I  
2 was involved in some studies related to benzene  
3 exposures including some of the Chinese  
4 studies, I don't think any of them ever got  
5 mature enough to reach scientific publication,  
6 so I can't see any offhand.

7       **Q. So no papers that have been -- let me**  
8 **rephrase that. No peer-reviewed research**  
9 **publications regarding occupational exposures**  
10 **of benzene, mineral spirits or solvents, true?**

11       A. I believe that's correct.

12       **Q. How about the review papers,**  
13 **editorials and book chapters?**

14       A. For sure the book chapters that I've  
15 written with Stuart Yuspa in the DeVita  
16 textbook, which is one of the most widely read  
17 textbooks on cancer, in the last one we had a  
18 specific section on benzene.

19       **Q. Which one is that?**

20       A. I think 42.

21       **Q. The cancer risk assessment?**

22       A. You're good at finding the word  
23 processing problems in this document. The top  
24 of 28 is the first 42.

25       **Q. 42 you believe has a section on**

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1 **benzene, correct?**

2 A. Yes. I'm sure that the other chapters  
3 in that series also discuss benzene.

4 **Q. Did you write the part about benzene?**

5 A. Yes.

6 **Q. Did you write the chapter on benzene?**

7 A. The whole chapter is on benzene. The  
8 chapter is on chemical carcinogenesis. Each  
9 time we do that we decide to highlight a  
10 specific exposure. I believe this time it was  
11 benzene's turn.

12 **Q. That would be in the 7th edition?**

13 A. I believe so, unless it was in the one  
14 before that, but I think it was this time we  
15 did that.

16 **Q. Anything else?**

17 A. On Page 27, Number 44 -- I'm sorry,  
18 you wanted peer-reviewed, correct?

19 **Q. Why don't you tell me what you've got?**

20 A. A book chapter that I wrote in a book  
21 that I edited. So I edited it myself, Number  
22 44. So I don't think calling myself would be  
23 peer-reviewed. At any rate, that's about how  
24 do you assess cancer in an individual. I  
25 assume that I brought up benzene or solvent

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1 exposure. But we'd have to look.

2 Q. You're not sure about that, right?

3 A. That's correct.

4 Q. The one you're sure about at this  
5 point is the first 42 at the top of Page 28?

6 A. That's correct.

7 Q. None others in that section, right?

8 A. That's correct.

9 Q. How about --

10 A. I'm sorry. I'm not done in the review  
11 article section yet. I believe that's it.

12 Q. Do you have a master's degree?

13 A. No.

14 MR. FRIELING: Let's take a break.

15 (Recess.)

16 BY MR. FRIELING:

17 Q. Dr. Shields, we're back after a short  
18 break. Is it your opinion that benzene can  
19 cause MDS in humans?

20 A. At sufficient doses benzene can cause  
21 MDS, at least some types of MDS.

22 Q. What types?

23 A. There have been some studies that,  
24 when examined, indicate that it may not cause  
25 all types of MDS. Which types, I don't

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1 remember. I think it's the refractory anemia  
2 with ringed sideroblasts, it either does or  
3 doesn't. That's the category standing out in  
4 my mind.

5 **Q. Have you reached a conclusion, Doctor,**  
6 **whether benzene can cause all forms of MDS in**  
7 **humans?**

8 A. I'm aware -- I do believe that  
9 sufficient exposure to benzene can cause at  
10 least some types of MDS, maybe all types of  
11 MDS. I think it just has not been studied well  
12 enough to know whether or not there are some  
13 types that it doesn't. But there is certainly  
14 some thought that it is the case.

15 **Q. Does benzene cause any forms of**  
16 **leukemia in humans?**

17 A. Yes, benzene can cause AML, acute  
18 myeloid leukemia as well as chronic myeloid  
19 leukemia in humans.

20 **Q. AML and CML?**

21 A. That's right.

22 **Q. Do you know what the position is of**  
23 **IARC on whether benzene can cause MDS in**  
24 **humans?**

25 A. IARC usually doesn't take positions of

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1 a chemical causing a particular type of cancer.  
2 They usually classify a carcinogen in their  
3 final conclusions as either a known, probable,  
4 and I forget the third category type of  
5 carcinogens. They usually don't make  
6 statements that benzene is the cause of this or  
7 that. They do that in their reviews, but they  
8 don't make a final conclusion in that area.

9 **Q. Do you know whether IARC has stated**  
10 **whether benzene can cause MDS in humans?**

11 A. I think you just asked me that and I  
12 think I just answered.

13 **Q. Do you know if they have or haven't?**

14 A. I have not looked at the IARC reviews  
15 on benzene at some time. I'm sure they  
16 discussed MDS. But generally they don't make a  
17 final conclusion about particular cancer end  
18 points.

19 **Q. How about NTP, has NTP stated that**  
20 **benzene can cause MDS?**

21 A. I don't know either way.

22 **Q. Has NTP stated that benzene can cause**  
23 **leukemia in humans?**

24 A. I know that NTP classifies benzene as  
25 a human carcinogen. Again, whether they



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1 specify that this is the type of cancer that  
2 can cause, I don't recall if they do that.

3 **Q. Is NTP a well-respected organization**  
4 **in your field?**

5 A. Well, the National Toxicology Program  
6 is part of The National Institute of  
7 Environmental -- Environmental Health Sciences.  
8 And sure, they're respected.

9 **Q. Is IARC respected?**

10 A. Sure.

11 **Q. Now, you actively treat patients with**  
12 **MDS?**

13 A. Correct.

14 **Q. How many a year do you estimate?**

15 A. I'm trying to think about how to  
16 answer that question, because obviously MDS can  
17 go on for a long time; that's the good news.  
18 So I have MDS patients that I'm seeing every  
19 week or every other week and then some I only  
20 see every two to three months.

21 **Q. How about new cases per year, just an**  
22 **estimate?**

23 A. Where I'm the primary hematologist  
24 it's probably about maybe as much as one a  
25 month. Then on the hospital service it could

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1 be several. And then there's those that we  
2 care for as a group; there's many more of that.

3 Q. Now, do you make a diagnosis of MDS in  
4 your patients?

5 A. Sure, with the examining pathologist.

6 Q. So do you make a pathological  
7 diagnosis in your patients?

8 A. I will review bone marrow slides,  
9 discuss them with the pathologist. But I  
10 myself do not provide a pathological diagnosis.

11 Q. Have you ever concluded that one of  
12 your patients had some type of chemical  
13 exposure that resulted in their MDS?

14 A. Not that I recall.

15 Q. How about leukemia patients, I assume  
16 you treat leukemia in patients?

17 A. Yes.

18 Q. Have you ever concluded that one of  
19 your leukemia patients had their disease from  
20 occupational exposure or any chemical exposure?

21 A. In the Washington area we're not  
22 heavily industrialized. So it would not be  
23 common in this area to do that. I don't recall  
24 if we have or not. Certainly I recall  
25 conversations with both patients and medical

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1 students and residents about it. But I don't  
2 recall anyone where we came to that conclusion.

3 **Q. Is that in your career?**

4 A. I've been in practice since '87. It's  
5 a little hard to remember. I don't recall any  
6 offhand.

7 **Q. Do you do autopsies?**

8 A. No.

9 **Q. Have you ever done autopsies?**

10 A. I have been present at autopsies.

11 **Q. Have you done autopsies yourself?**

12 A. No.

13 **Q. Do you look at pathology from people  
14 who have been embalmed?**

15 A. Doing autopsies on people who are  
16 embalmed is a very unusual practice.

17 **Q. My question was, do you look at  
18 pathology of people who have been embalmed?**

19 A. It's very unusual. I have never done  
20 it.

21 **Q. You did it in this case, right?**

22 A. I looked at the microscope slides from  
23 this case, that's correct.

24 **Q. That's pathology, yes?**

25 A. That's right. I thought you were

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1 referring to my clinical practice.

2 Q. I was originally. Just to make sure,  
3 in your clinical practice have you ever looked  
4 at pathology slides from tissue that's been  
5 embalmed?

6 A. No. We take care of live people.

7 Q. So I added up your testimony. Would  
8 you say about one in five you're testifying on  
9 behalf of the plaintiff, four out of five  
10 defendant?

11 A. In depositions or trials?

12 Q. Depositions.

13 A. Maybe. You could be off by one.

14 Q. That's about right?

15 A. Between one and two, yes.

16 Q. How much do you charge right now for  
17 your time in this case?

18 A. \$490 an hour.

19 Q. Is that for deposition time or is that  
20 for trial time, or research?

21 A. That's for non-testimony time.

22 Q. How about testimony time; how much do  
23 you charge for testimony time, like today?

24 A. There's a rate for a half day versus  
25 the whole day. The whole day is \$5,500. I

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1 don't recall what the half day is. But it's  
2 something more than half of that.

3 Q. For a full day of testimony it would  
4 be \$5,500?

5 A. That's correct.

6 Q. More than half of that for a half day;  
7 is that true?

8 A. That's right.

9 Q. How much time have you put into this  
10 case?

11 A. I'm not sure I can estimate. I  
12 haven't looked at the hours.

13 Q. I get to know. So you're going to  
14 have to just do your best.

15 A. You want me to guess?

16 Q. I want you to give me your best  
17 estimate.

18 A. I'd have to give you my best guess.

19 Q. Okay. Do that.

20 A. I'll guess at 40 to 50.

21 Q. Who would know the answer to that  
22 question?

23 A. Well, I could know the answer to that  
24 question if I look at the invoices and counted  
25 up the hours.

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1 Q. Have you already sent bills in this  
2 case?

3 A. Yes, I have.

4 Q. How many?

5 A. I don't know. A couple.

6 Q. Are those included in your file for  
7 this case?

8 A. My file at home?

9 Q. Wherever you keep your file for this  
10 case.

11 A. Yes, I have copies of the invoices.

12 MR. FRIELING: Frank, I'd like to see  
13 those, please?

14 MR. GORDON: Right now?

15 MR. FRIELING: He doesn't have them  
16 right now. I don't think that's possible.

17 MR. GORDON: I'll trade you invoices.  
18 You give me all your experts and I'll give you  
19 all mine.

20 MR. FRIELING: All I'm asking for is  
21 an estimate of how much time he's got in this  
22 case.

23 MR. GORDON: He just gave you that.

24 MR. FRIELING: He told me it was a  
25 guess.

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1 MR. GORDON: I'll be glad to trade  
2 with you.

3 MR. FRIELING: Sure. We'll see about  
4 that.

5 BY MR. FRIELING:

6 Q. Your best guess is 40 to 50 hours?

7 A. Sure.

8 Q. At \$490 an hour?

9 A. That's right.

10 Q. Let's take a look at the report. I  
11 think it's Exhibit 1. You brought that with  
12 you today, correct?

13 A. That's correct.

14 Q. Now, the first paragraph here  
15 describes some of the materials that you have,  
16 right?

17 A. That's right.

18 Q. But it seems incomplete to me. And  
19 I'm not saying it was meant to be a complete  
20 list. But that's not all the materials you  
21 had, correct?

22 A. Well, I've added the materials that  
23 I've handwritten at the top of the page.

24 Q. The Dewey Batton deposition, right?

25 A. That's right.

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1 Q. The Banks report, yes?

2 A. Well, the Banks report, as well as the  
3 Huitt and Albers report would have come after  
4 this was written.

5 Q. The Banks report, yes?

6 A. I have reviewed that, yes.

7 Q. The Huitt report?

8 A. Yes.

9 Q. And the Albers report?

10 A. I reviewed that.

11 Q. And then on the right it says Cathy  
12 Batton depo?

13 A. That's correct.

14 Q. And Omalu report?

15 A. Depo.

16 Q. You did have the Omalu deposition  
17 before you wrote this report?

18 A. Yes. And, in fact, on Page 24 where I  
19 provide a critique of Dr. Omalu, it cites that  
20 I have a deposition for that as well.

21 Q. And you also had some other materials.  
22 You had an affidavit for Mr. Batton, yes?

23 A. That's correct.

24 Q. Do you have everything --

25 A. And I have that cited here on Page 3.



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1 Q. Do you have everything that you looked  
2 at in one place at your house?

3 A. I have -- everything is electronic on  
4 my computer in a folder.

5 Q. And that's everything that was  
6 provided to you?

7 A. There are things that I would have  
8 looked at that are not necessarily in that  
9 folder. But everything that's been provided  
10 for me in the Batton case ends up in that  
11 computer folder.

12 MR. FRIELING: We'll probably make a  
13 request for that.

14 Q. But nonetheless, this paragraph here  
15 on the first page, that's not complete,  
16 correct?

17 A. Right. I mean, it doesn't claim that  
18 it's complete. But nonetheless, that's right.

19 Q. Did you review Dr. Baker's deposition?

20 A. No, I have not.

21 Q. Do you know who he is?

22 A. I believe he is one of the plaintiff  
23 experts in this case.

24 Q. So you don't have any specific  
25 disagreements with anything he said in his

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1 deposition, right, because you haven't reviewed  
2 it?

3 A. Right, I have not reviewed it.

4 Q. What I'd like to know here is how this  
5 report was generated. First off, did you write  
6 this entire report?

7 A. Yes.

8 Q. By your own hand?

9 A. I typed it.

10 Q. You typed it yourself?

11 A. Yes.

12 Q. Good for you. Now, did any lawyers  
13 for the defendants contribute anything in this  
14 report?

15 A. There was no contribution. I believe  
16 Mr. Gordon picked up some of the typos in here  
17 and we had those corrected.

18 Q. Did he contribute anything  
19 substantive, any changes; did he mention there  
20 should be changes, anything?

21 A. I don't think so.

22 Q. For each section, then, it's  
23 completely your own?

24 A. Yes.

25 Q. We'll go through that, then. If you

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1 go to Page 3, please. As you said, you looked  
2 at Mr. Batton's affidavit, true?

3 A. That's right.

4 Q. And you read his deposition, yes?

5 A. That's right.

6 Q. Scope of opinions. In this first  
7 paragraph here the last sentence that starts  
8 with "organic solvents," do you see that?

9 A. Yes.

10 Q. Do you know how many cleaners were  
11 available out at the Hamlet Yard where he  
12 worked in the '70s, early '80s?

13 A. Firsthand, no.

14 Q. I'm just asking if you reviewed that  
15 or had that in mind or took that into  
16 consideration when you wrote this?

17 A. The ones that were in the yard itself.

18 Q. The ones that were available to use?

19 MR. GORDON: Objection.

20 A. I have some general knowledge of what  
21 was used by railroads, and in particular, CSX  
22 over some of the years. I won't have a  
23 comprehensive or complete knowledge what would  
24 be available to him at that yard in particular,  
25 I would have no idea.

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1 Q. You understand, then, there are  
2 different cleaners for different purposes, yes?

3 A. Yes.

4 Q. And you understand that some of these  
5 cleaners are stored in 55-gallon drums, yes?

6 A. That is my understanding, correct.

7 Q. And that's from reading some of the  
8 depositions in this case you got that  
9 understanding?

10 A. And also what I've observed myself.

11 Q. Have you been out to the Hamlet Yard  
12 before?

13 A. No.

14 Q. What yard have you been out to?

15 A. A yard just outside -- the Cumberland  
16 Yard, Hagerstown, somewhere in Maryland.

17 Q. Was that a CSX yard?

18 A. Yes.

19 Q. Was that at the request of an  
20 attorney?

21 A. It was years ago. It may have been my  
22 request or a joint idea.

23 Q. And it was in preparation for  
24 litigation, I assume?

25 A. Broadly, I'm not sure we had a

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1 specific case, we had either a just finished  
2 case or a case coming up. But I thought it  
3 would be worthwhile to go and get some  
4 firsthand knowledge of what's going on in the  
5 railroad yards.

6 **Q. Why is that?**

7 A. I felt it would be helpful for me to  
8 understand work titles, work activities and  
9 potential exposures.

10 **Q. This was the Cumberland Yard, you**  
11 **said?**

12 A. I think I'm remembering that  
13 correctly.

14 **Q. So you've personally observed some**  
15 **55-gallon drums, true?**

16 A. I believe that's true.

17 **Q. Who did you go with?**

18 A. A lawyer named -- two lawyers, Jim  
19 Turner and Beth Kramer.

20 **Q. These are lawyers that represent CSX?**

21 A. I believe that's the case.

22 **Q. Do you know how Mr. Gordon found you,**  
23 **came to contact you?**

24 A. I don't know specifically how he was  
25 referred to me, no.

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1 Q. But he called you up one day; is that  
2 right?

3 A. Or shot me an e-mail, something like  
4 that.

5 Q. Was it a call or an e-mail the first  
6 time?

7 A. I don't remember.

8 Q. What did the e-mail say, if it was an  
9 e-mail?

10 A. I don't remember. So I don't know  
11 what the content of the e-mail would be.

12 Q. Do you remember what he asked you the  
13 first time he talked to you, what that  
14 conversation was about?

15 A. I don't remember the specifics. I'm  
16 sure he described the case. I get a fair  
17 amount of these calls. I usually don't take  
18 notes. My first question is usually what's the  
19 time frame.

20 Q. Did you take notes this time?

21 A. No.

22 Q. Going back to my original question, do  
23 you know what types of cleaners were available  
24 in 55-gallon drums at the Hamlet Yard in the  
25 early '70s?

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1 A. Not offhand. Let's put it this way,  
2 not that I have seen documents or other  
3 evidence either way.

4 Q. So the answer is no?

5 A. The answer is I don't know all the  
6 cleaners that were used at that particular  
7 yard, that's correct.

8 Q. I'm going to reask it, because that's  
9 not what I asked you. Do you know what  
10 cleaners were available in 55-gallon drums at  
11 the Hamlet Yard in the 1970s?

12 A. I don't know all of the cleaners that  
13 were available in that yard in 55-gallon drums,  
14 no.

15 Q. Do you know which cleaners were  
16 labeled as solvents in 55-gallon drums?

17 A. I would assume that the drums wouldn't  
18 be labeled solvents. They would have a  
19 particular chemical name on them.

20 Q. Why would you make that assumption?

21 A. You don't buy solvents. You buy a  
22 particular product.

23 Q. You don't have any knowledge whether  
24 the word solvent was the label on any of these  
25 drums?

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1 A. I don't have any knowledge of that  
2 particular label either way.

3 Q. You don't know if the mineral spirits  
4 that were stored out there were kept in drums  
5 that were labeled solvent?

6 A. I wouldn't know either way.

7 Q. Further down in this second paragraph  
8 under scope of opinions on Page 3 it appears  
9 you did some PubMed searches; is that right?

10 A. That's right.

11 Q. And it lists some terms that you used;  
12 is that true?

13 A. That's right.

14 Q. Did you use the term benzene?

15 A. It's possible. I don't remember  
16 either way.

17 Q. But benzene is not listed here, true?

18 A. Benzene is not listed here, that's  
19 correct.

20 Q. This is intended to write down what  
21 you searched for?

22 A. It was intended to show you the scope  
23 of the search.

24 Q. It doesn't include benzene, at least  
25 listed here?



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1 A. That's correct. I believe I do  
2 specifically discuss benzene in the report,  
3 though.

4 Q. Could you turn to Page 8, please? Can  
5 I see that, please? Our copy didn't get the  
6 graphs, the copy that was produced to us.

7 A. Let me have that back for a second. I  
8 noticed too that my copy didn't print well. So  
9 I printed out an extra page.

10 Q. You have a section in here of  
11 Dr. Omalu's autopsy report?

12 A. That's correct.

13 Q. I'm going to ask you if you agree or  
14 disagree with A through J? Do you agree with  
15 A?

16 A. No.

17 Q. Why is that?

18 A. It's a mildly hypercellular marrow.  
19 And he states for age, I'm not aware that  
20 there's any criteria reference ranges in  
21 hypercellularity by age.

22 Q. How about B?

23 A. I agree that all of the hematopoietic  
24 lineages are present.

25 Q. C?

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1 A. I agree that there was some increased  
2 numbers of megakaryocytes.

3 Q. D?

4 A. I agree that there was some mild  
5 atypical megakaryocytes, yes.

6 Q. E?

7 A. I didn't see any hypolobulated  
8 megakaryocytes.

9 Q. Did Dr. Banks?

10 A. I'd have to go back to the report, but  
11 I don't think so.

12 Q. And you're reviewing Dr. Banks' report  
13 right now, true?

14 A. That's correct.

15 Q. Have you reviewed his deposition?

16 A. No. He didn't note hypolobulated  
17 megakaryocytes.

18 Q. Do you know if he saw them?

19 A. It's not in his report. That's all I  
20 know.

21 Q. But you don't agree with E, true?

22 A. I didn't see these, no.

23 Q. Again, you're not a pathologist,  
24 right?

25 A. That's correct.

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1 Q. F, do you agree with that?

2 A. I did not see any

3 micro-megakaryocytes.

4 Q. Do you know if Dr. Banks did?

5 A. It's not in his report.

6 Q. How about G?

7 A. Yes, there was definitely maturation

8 of myeloid lineage to segmented neutrophils.

9 Q. How about H?

10 A. I would agree that there was some

11 increased myeloid-erythroid cell ratio. I'm

12 hedging on this. I specifically didn't comment

13 on that because I think that's a very difficult

14 interpretation to make from a biopsy. It's not

15 the way that I would be comfortable doing it.

16 I guess I would answer I don't agree or

17 disagree with that.

18 Q. How about I?

19 A. It's actually the same answer as H. I

20 don't think you really can make that call from

21 a biopsy.

22 Q. Do you know if Dr. Banks agreed or

23 disagreed with that?

24 A. He doesn't have it in his report.

25 Q. So you don't know?

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1 A. It's not in his report. That's all I  
2 know.

3 Q. How about J?

4 A. I think that's something you can't  
5 make from a -- at least from this biopsy. But  
6 I don't agree with it.

7 Q. I'm sorry?

8 A. I don't agree with it. I don't think  
9 you can make that diagnosis from this biopsy.

10 MR. FRIELING: Let's take a break.

11 (Recess.)

12 BY MR. FRIELING:

13 Q. Doctor, did you ask the attorneys at  
14 CSX if you could talk to some of the co-workers  
15 in this case, figure out about the exposure?

16 A. No, I didn't.

17 Q. You just relied on what they had sent  
18 you and that summary?

19 A. Actually, I relied on what Mr. Batton  
20 testified to.

21 Q. You're not relying on Exhibit 4 at  
22 all?

23 A. I am assuming that what Mr. Batton is  
24 reporting is accurate for the sake of my  
25 opinions. I understand that there is a dispute

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1 about what the actual exposure occurs. I felt  
2 like it was prudent for me to assume the worst  
3 case, which is what Mr. Batton reported.

4 Q. My question is you're not relying on  
5 Exhibit 4 at all for your opinions in this  
6 case?

7 A. That's correct.

8 Q. Are you relying on Dr. Banks' report  
9 at all in this case?

10 A. Not really. It's always helpful to  
11 know that a pathologist is concurring with what  
12 I've seen. But I'm not relying on it directly,  
13 no.

14 Q. Did you rule out MDS based on your  
15 pathological review?

16 A. Well, I ruled out MDS based on the  
17 pathological review, as well as the clinical  
18 course.

19 Q. I'm just talking about the  
20 pathological. Were you able to rule out MDS  
21 based on your review of the pathology?

22 A. I think my review of the pathology  
23 made it unlikely that this was MDS. But MDS,  
24 on the basis of a biopsy, which at best would  
25 be subtle here, is a very difficult diagnosis

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1 to make. Looking at the immunohistochemistry  
2 stains did help to rule out MDS. But again, to  
3 rule out MDS, you have to look at both  
4 pathology as well as the clinical course.

5 **Q. I didn't understand that. Let me ask**  
6 **it a different way. Is it true or not true,**  
7 **sir, that the pathology does not rule out MDS**  
8 **diagnosis?**

9 A. The pathology makes it unlikely to  
10 have this as MDS. There are some cases where  
11 people have a clinical course consistent with  
12 MDS and we suspect that the bone marrow is not  
13 sufficient to make the diagnosis at that time.  
14 If we're correct, the test of time tells us  
15 whether we're correct or not. Bone marrows can  
16 never a hundred percent rule out  
17 myelodysplasia. But they can make it pretty  
18 unlikely that it's myelodysplasia.

19 **Q. At least in this case the bone marrow**  
20 **did not one hundred percent rule out MDS in**  
21 **your opinion?**

22 A. There's almost no features here of MDS  
23 to make the diagnosis. As I said, it's always  
24 possible that someone could have MDS without  
25 sufficient pathological features.

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1 Q. Let me talk about that. Just from  
2 your understanding of pathology and MDS, what  
3 would be required in a biopsy like this to  
4 diagnose it pathologically?

5 A. First of all, you'd have to look at  
6 the aspirate. You would include  
7 immunohistochemistry stains and you would  
8 include cyber-genetics to make the diagnosis.

9 Q. With the information that you had  
10 available to you, the tissue, I should say,  
11 could you even make a diagnosis of MDS?

12 A. If there were severe MDS you could  
13 probably do it from a biopsy alone. Although I  
14 think most pathologists would be uncomfortable  
15 doing that. But in severe cases, yes, you  
16 probably could.

17 Q. What would a severe case of MDS show  
18 that would be convincing?

19 A. Well, you would have substantial  
20 hypocellularity; you would have dysplasia of  
21 all cell lines. Could you see -- frequently  
22 you'll see ringed sideroblasts and you'll also  
23 see an increase in myeloid blasts.

24 Q. And is -- I know you mentioned the WHO  
25 classification system. Is there a method to

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1 diagnosis?

2 A. I didn't mention the World Health  
3 Organization.

4 Q. You mention it in your report.

5 A. So yes, you can use -- there's  
6 different classification schemes all aimed at  
7 trying to improve the way we do prediction,  
8 response and prognosis. One is by the World  
9 Health Organization, and the other one is the  
10 FAB classification of the French-American-  
11 British classification.

12 Q. Going back to your report on Page 8,  
13 the part that says "bone marrow and pathology  
14 review." Do you see that?

15 A. Yes.

16 Q. You're relying on your own review of  
17 the pathology in this case and not relying on  
18 Dr. Banks, true?

19 A. I'm not relying on Dr. Banks.

20 Q. I was a little confused here. There's  
21 a sentence that starts the CD34 and CD113. Do  
22 you see that?

23 A. Yes.

24 Q. Did you mean CD117?

25 A. That's correct.



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1 Q. What's 113?

2 A. I meant 117.

3 Q. How often would you have an increased  
4 CD34 and CD113 immunohistochemistry stain in an  
5 MDS; do you know?

6 A. It helps to make the diagnosis. The  
7 sensitivity of the staining I would have to  
8 look up because I don't know offhand.

9 Q. If Dr. Banks said it was about half  
10 the time, coin-flip type deal, would that be  
11 consistent with your understanding?

12 A. Well, I certainly know it's not a  
13 hundred percent, so it's not a requirement.  
14 Whether it's 50 percent or 30 percent of the  
15 time that it's positive, I don't recall  
16 offhand. But 50/50 possible.

17 Q. But you just don't know?

18 A. That's the type of thing I would look  
19 up. Or I would be relying on the pathologist.

20 Q. And then you have CD31 here. That's  
21 the next one you list, correct?

22 A. That's right.

23 Q. Did the stains you saw for that show  
24 an increase in the percentage of  
25 megakaryocytes?

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1 A. It did not look like it was increased  
2 to me. That's a fairly subtle read.

3 Q. If Dr. Banks said it was, you'd  
4 disagree with him on that point, the  
5 pathologist?

6 A. No, I wouldn't necessarily disagree  
7 with him. The way I practice is I usually sit  
8 down with the pathologist and they say here's  
9 what you see, and I'll agree or disagree.

10 Q. So the way you typically do things is  
11 you sit down and consult with the pathologist?

12 A. That's correct.

13 Q. You didn't do that here?

14 A. I did take the slide over to our  
15 pathologist here to review it.

16 Q. But you didn't do it with the ones  
17 that had been retained in the case by the  
18 defendants?

19 A. That's correct.

20 Q. I don't remember the answer to this.  
21 You would disagree with Dr. Banks when he said  
22 there was an increase in the percentage of  
23 megakaryocytes, as reflected in the results  
24 from the CD31?

25 A. I didn't notice that. But I wouldn't

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1 disagree with him if he showed me what he was  
2 talking about. If I recall correctly about the  
3 CD31, it's not a strong stain. So it's subtle  
4 to call it increased. But he would certainly  
5 have more experience than I do on that.

6 **Q. So you'd defer to him on that?**

7 A. I would defer to him.

8 **Q. I don't know how to pronounce this**  
9 **word, you list a myeloperoxidase stain?**

10 A. That's right.

11 **Q. Is that the same thing as the Factor**  
12 **VIII stain?**

13 A. I don't think so.

14 **Q. Do you know what a Factor VIII stain**  
15 **is?**

16 A. Not offhand.

17 **Q. Is it listed in his report, and that's**  
18 **Dr. Banks' report?**

19 A. I'm holding Dr. Banks' report. He has  
20 a Factor VIII stain listed here.

21 **Q. Do you know what that is, or how it**  
22 **relates to MDS or the diagnosis of that**  
23 **disease?**

24 A. Not offhand, no. The answer is no,  
25 I'm not sure.

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1 Q. Do you know in Mr. Batton's case  
2 whether that showed some consistency with the  
3 diagnosis of MDS?

4 A. I don't know either way. The slide  
5 that was sent to me was a CD31, CD34, CD117,  
6 and the MPO.

7 Q. Did you say MP --

8 A. Yes, the myeloperoxidase.

9 Q. What was the acronym?

10 A. MPO.

11 Q. I want to know the short way to say it  
12 too. You say here -- what is the MPO stain  
13 measuring?

14 A. It's one of the markers that we use  
15 for looking for acute leukemia to see if it's  
16 increased.

17 Q. To see if acute --

18 A. You look at the MPO staining as a way  
19 of supporting the diagnosis of leukemia.

20 Q. What does it look for?

21 A. Myeloperoxidase is an enzyme. That's  
22 what it's looking for in cells that are  
23 expressing MPO, and you'd have an increased  
24 number of cells.

25 Q. Did it show an increased number of

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1 cells in this case?

2 A. I don't think so.

3 Q. Do you know what Dr. Banks has to say  
4 about that?

5 A. Don't see him reporting on the MPO  
6 here.

7 Q. You say it's essentially normal. To a  
8 lawyer that means it's abnormal. What does  
9 that mean?

10 A. It's difficult to call from a -- from  
11 bone marrow biopsy, as I mentioned. It may  
12 have been a little hypercellular, there may  
13 have been a little megakaryocytic, hyperplasia  
14 and dysplasia, from my reading. That's not  
15 entirely normal. But in the clinical context,  
16 or even looking at that bone marrow, it's hard  
17 to know if there are any clinical consequences  
18 at all from those findings.

19 The other thing I'll mention is that  
20 what was not provided to me which Dr. Banks did  
21 have, and I want to stand corrected, what I am  
22 relying upon is his interpretation of the iron  
23 stain, because I didn't have those slides.

24 Q. Let's just clean that up. You just  
25 reviewed Dr. Banks' report again and you

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1 recalled that with respect to the iron stain,  
2 you are relying on his interpretation of that?

3 A. That's right, because I didn't have  
4 those slides.

5 Q. You didn't have those slides to  
6 review?

7 A. That's right.

8 Q. Do you do staining yourself?

9 A. Actually, I have done staining myself.  
10 I have technicians who regularly do  
11 immunohistochemistry staining that I supervise.

12 Q. But you don't do it in this case?

13 A. No.

14 Q. Do you know if -- I want to talk about  
15 the iron staining just for a minute. You  
16 understand that Dr. Banks said that there was a  
17 complete absence of iron in the tissues that he  
18 stained?

19 A. That's right.

20 Q. Had those tissues been decalcified?

21 A. Presumably. That's the routine  
22 processing of the blocks.

23 Q. You said it's the routine processing  
24 of the blocks, what do you mean by that, in  
25 what situation?

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1 A. Well, biopsies get fixed and then put  
2 into paraffin so you can slice them. During  
3 that processing that is one of the treatments.

4 Q. What's the impact of decalcified  
5 tissue on the iron in the tissue?

6 A. It could make the iron level go down.

7 Q. Significantly?

8 A. I would assume not to zero. It  
9 doesn't go from normal to zero. It might go  
10 from normal to something less than normal. It  
11 might go from very low to zero. But not from  
12 normal to zero, no.

13 Q. Doctor, I just want to ask, do you  
14 think that you're capable of giving expert  
15 opinions based on pathological review?

16 A. I'm not a pathologist. I am certainly  
17 capable of providing diagnosis based on  
18 pathological reviews.

19 Q. What's the difference in those two  
20 things?

21 A. As a person who treats people,  
22 pathology is one of the tools that I use to  
23 make diagnoses.

24 Q. In consultation with a pathologist?

25 A. Correct.

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1 Q. Now, I think you mentioned a moment  
2 ago that you showed the slides to somebody; is  
3 that right?

4 A. That's right, I reviewed those slides  
5 with one of our pathologists.

6 Q. Who is that?

7 A. His name is Bascal Khallakuri.

8 Q. Is it Dr. Khallakuri?

9 A. Yes.

10 Q. What did he have to say?

11 A. We reviewed them together. I brought  
12 it to him. I said what do you think? He  
13 basically said this was essentially a normal  
14 marrow, so one could not make the diagnosis of  
15 MDS from this marrow.

16 Q. Are you relying on his opinions in  
17 this case?

18 A. Not really. I mean, I looked at them  
19 myself. As I said, just like with Dr. Banks,  
20 it's comforting to know that what I'm seeing is  
21 concurred with by a pathologist.

22 Q. Now, in a clinical sense when you're  
23 making a diagnosis in one of your patients,  
24 would you ever make a diagnosis pathologically  
25 without relying on another pathologist?



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1 A. No. I make clinical diagnoses.

2 Q. The next page, on Page 9 at the top,  
3 it's true that Banks' report said there was no  
4 cirrhosis, true?

5 A. Well, what he said there was chronic  
6 liver disease with stage 3 bridging fibrosis.  
7 That is an acronym for cirrhosis. I can't  
8 interpret that for you. I guess you should ask  
9 him.

10 Q. Did you read this closely?

11 A. I believe I read it closely.

12 Q. Did you read the comments at the  
13 bottom?

14 A. I have read them, yes. The liver  
15 shows moderately advanced scarring with  
16 bridging fibrosis but without definite  
17 cirrhosis. As I said before, my understanding  
18 is that fibrosis is part of cirrhosis. So he's  
19 not saying that there's not cirrhosis there.  
20 He's saying that there's not definite  
21 cirrhosis.

22 Q. Let me make sure I heard that right.  
23 You're saying Dr. Banks' opinion is he's not  
24 saying there isn't cirrhosis; he's just saying  
25 there's no definite cirrhosis?

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1       A. I'll quote what he's saying. He says  
2 but without definite fibrosis. Bridging  
3 fibrosis is usually a component of cirrhosis.  
4 What I'm interpreting it as is he didn't see  
5 enough criteria to call it cirrhosis. So he  
6 said it was without definite cirrhosis.

7       **Q. Do you know if stage 3 fibrosis is**  
8 **actually cirrhosis?**

9       A. I don't know.

10      **Q. You're not an expert in staging**  
11 **cirrhosis, true?**

12      A. That's correct.

13      **Q. And with respect to Mr. Batton, you**  
14 **don't know if he had cirrhosis or not?**

15      A. He had an earlier pathology report  
16 from when he had his gallbladder taken out  
17 saying that he had cirrhosis.

18      **Q. Did he have cirrhosis or not?**

19      A. According to the pathologist who  
20 looked at his liver around the time of his  
21 gallbladder, he was diagnosed with cirrhosis of  
22 the liver.

23           MR. FRIELING: Object to the  
24 non-responsive portion.

25      **Q. Doctor, in your opinion did he have**

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1 **cirrhosis or not?**

2 A. He had a pathological diagnosis of  
3 cirrhosis.

4 **Q. Do you know?**

5 A. Pathologically he was diagnosed with  
6 cirrhosis.

7 **Q. But what's your opinion?**

8 A. I did not go through looking at the  
9 records close enough to decide whether he had  
10 clinical cirrhosis or not.

11 **Q. You don't know if Mr. Batton had**  
12 **clinical cirrhosis or not, true?**

13 A. I know he had a pathological diagnosis  
14 of cirrhosis. I don't know whether he had  
15 clinical cirrhosis.

16 **Q. It's your opinion that he had a**  
17 **pathological diagnosis of cirrhosis?**

18 A. It's my opinion that he had a  
19 pathologist who reported that he had cirrhosis.

20 **Q. But do you know if he had a**  
21 **pathological diagnosis of cirrhosis?**

22 A. You asked me that. I'm answering he  
23 was given the pathological diagnosis of  
24 cirrhosis at the time he had his gallbladder  
25 out.

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1 Q. You didn't reaffirm that or assess  
2 that in this case?

3 A. I reviewed only the medical records  
4 regarding the liver.

5 MR. FRIELING: Objection.  
6 Non-responsive.

7 Q. Did you confirm the pathological  
8 diagnosis of cirrhosis in Mr. Batton or not?

9 A. I reviewed only the medical records.

10 Q. Is that a yes or no?

11 A. I confirmed it in the medical records.

12 Q. You confirmed you read it in the  
13 medical records?

14 A. That's correct.

15 Q. Based on your own independent review,  
16 did you confirm or not confirm that there was a  
17 diagnosis of pathological cirrhosis?

18 A. I'm not sure how to answer that. I  
19 confirmed that I read it in the medical  
20 records.

21 Q. My question is: By looking at any  
22 pathology, Doctor, did you confirm it?

23 A. I did not have slides of the liver  
24 that I looked at, no.

25 Q. So you did not confirm in this case by

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1 looking at pathology yourself that Mr. Batton  
2 had cirrhosis?

3 A. I relied on two biopsies, one saying  
4 cirrhosis one other showing liver disease.

5 MR. FRIELING: Objection.  
6 Non-responsive.

7 Q. You did not confirm by looking at  
8 pathology yourself --

9 A. As you asked me before. I did not  
10 look at the slides.

11 Q. I have to finish my question before  
12 you respond. That's how this works.

13 MR. GORDON: The way it doesn't work  
14 is asking the witness the same question for 15  
15 minutes. If you're going to ask him the same  
16 question again, he ain't going to answer it.

17 MR. FRIELING: Let's make sure it's on  
18 the record.

19 MR. GORDON: Let's make sure we  
20 understand how it works since we're giving  
21 lectures of how it works.

22 MR. FRIELING: Let's make sure it's on  
23 the record.

24 MR. GORDON: It's on the record five  
25 times.

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1 BY MR. FRIELING:

2 Q. You did not confirm by looking at  
3 pathology itself whether Mr. Batton had  
4 cirrhosis when he died?

5 A. As you've asked me several times, I'll  
6 answer again. I did not look at his liver  
7 slides.

8 Q. Do you look for cirrhosis in patients  
9 in your clinical practice, pathologically?

10 A. There will be times when I review  
11 liver biopsies with pathologists in my  
12 patients.

13 Q. But do you diagnose cirrhosis  
14 pathologically yourself in your patients?

15 A. No, I'm not a pathologist.

16 Q. Family history, was there anything in  
17 Mr. Batton's family history that put him at an  
18 increased risk for MDS?

19 A. Not that I was aware of.

20 Q. Social history, anything in his social  
21 history that put him at an increased risk for  
22 MDS?

23 A. Notwithstanding the fact that I don't  
24 think he had MDS, his smoking history certainly  
25 would put him at risk of MDS.

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1 Q. Does smoking cause MDS in humans?

2 A. There's a number of epidemiologic  
3 studies that report that association.

4 Q. I'm just looking for a yes or no.  
5 Does smoking cause MDS in humans?

6 A. There's a number of epidemiologic  
7 studies that report that association.

8 Q. Are you capable of answering that  
9 question yes or no?

10 A. It's such a broad question that it  
11 depends on the data.

12 Q. I'm just asking in general causation  
13 terms can smoking -- tobacco smoking cause MDS  
14 in any specific person?

15 A. Well, epidemiology studies don't  
16 provide information about specific people. So  
17 I didn't understand the question.

18 Q. Can smoking, tobacco smoking cause MDS  
19 in a person?

20 A. I'll answer it the same way I answered  
21 it before. The epidemiologic studies show that  
22 smoking causes MDS.

23 Q. That's different than you answered  
24 before. How about alcohol consumption; can  
25 alcohol consumption cause MDS in humans?

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1       A. There are certainly epidemiologic  
2 studies that say that. I don't think there's  
3 sufficient evidence to make that conclusion.

4       **Q. Any other things from his social**  
5 **history that would give him an increased risk**  
6 **for MDS?**

7       A. No, not other than the smoking.

8       **Q. I want to talk about the clinical**  
9 **course and I think I understand just from what**  
10 **you've written here on Page 10, if you could go**  
11 **to Page 10 in your discussion. You state that**  
12 **his clinical course is inconsistent with MDS,**  
13 **and then you explain some of those reasons,**  
14 **true?**

15       A. That's correct.

16       **Q. Can you give me in your terms why his**  
17 **clinical course up until his time of death was**  
18 **inconsistent with MDS?**

19       A. He was known to have some mild anemia  
20 before he came into the hospital around  
21 September 2007. In 2007 he came in with -- he  
22 was pretty sick. He had shortness of breath  
23 and other complaints and was found to be  
24 severely anemic. Then over several days his  
25 platelet count as well as his white count went



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1 down as well.

2           So first of all, in someone who is  
3 followed as closely as he is and was at the  
4 time, MDS usually doesn't present that acutely.  
5 It usually develops more slowly over time. But  
6 nonetheless, that could happen. And it was  
7 reasonable to think at the time that within the  
8 differential would be a mild dysplasia  
9 syndrome.

10           They never made a diagnosis. They  
11 never made a bone marrow test. So then he was  
12 discharged -- let me go back. He was given six  
13 units of blood. They essentially corrected the  
14 anemia. His platelet count went down very  
15 well, possibly due to the six units of blood  
16 that he got. His white count went down, which  
17 was never clearly explained. But when people  
18 get into that extremis, it's not uncommon for  
19 blood counts to become abnormal and then as  
20 they get better, they get better.

21           He was given some medication to help  
22 boost up his white count. But then way after  
23 that it would have worn off, way after the  
24 blood that he was given would be out of his  
25 body. Now we're fast forwarding to January.

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1 His counts were pretty good. His white count  
2 was fine; his platelet count was fine. He only  
3 had a mild anemia. MDS doesn't get better like  
4 that.

5 **Q. You said that was January?**

6 A. That's right. So MDS doesn't get  
7 better like that. Then he continued on for  
8 several more months. If he had the severe  
9 pancytopenia, the way Dr. Omalu claimed, and  
10 progressive or profound bone marrow failure, he  
11 would have known it.

12 But nonetheless, in January his counts  
13 got pretty good, and that's not what MDS does.  
14 That would be consistent with the bone marrow  
15 that we ultimately saw in April.

16 **Q. Anything to explain -- let me ask it**  
17 **this way: There's been several references and**  
18 **medical records and I know in your report it**  
19 **talks about these vitamin deficiencies. You**  
20 **recall those, yes?**

21 A. Yes.

22 **Q. Can you explain how that plays into**  
23 **your opinion?**

24 A. Well, he clearly had a nutrition  
25 issue. He had documented low levels of vitamin

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1 A, copper, vitamin B-12 and I think vitamin E,  
2 if I'm remembering correctly. Certainly the  
3 iron and the copper and the B-12 deficiencies  
4 can result in depressed blood counts.

5 **Q. Was he taking supplements?**

6 A. When they discovered those as issues  
7 he was taking -- at least he was prescribed  
8 supplements. And I assume that he was taking  
9 them. At some point they stopped his B-12  
10 shots some time around January. So that was  
11 stopped. But as far as I know he was taking  
12 other supplements.

13 **Q. Iron supplements, yes?**

14 A. It was prescribed for him.

15 **Q. Do you know if he took those?**

16 A. I don't know either way.

17 **Q. Do you know if Cathy Batton, his wife,**  
18 **said he took them?**

19 A. I don't recall either way.

20 **Q. If he was taking them, why didn't his**  
21 **iron counts get better?**

22 A. It's not uncommon that people have  
23 absorption of iron problem. We have to replete  
24 them with intravenous iron.

25 **Q. Why would he be having an absorption**

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1 of iron problem?

2 A. Some people just do. And we never  
3 really explain the reason. Other people have  
4 specific gastrointestinal problems that  
5 preclude the absorption.

6 Q. Did Mr. Batton have any  
7 gastrointestinal problems that precluded the  
8 absorption?

9 A. I'm not an expert in vitamin  
10 absorption. When you start getting multiple  
11 vitamins like this, then you trigger other  
12 malabsorption issues. That might be a possible  
13 explanation. At the end of the day what I do  
14 know is he documented vitamin deficiencies, the  
15 ones I listed.

16 Q. Do you mean when he died?

17 A. When he died. I don't think he had a  
18 recent copper level or B-12 level or vitamin A  
19 level to document whether, A, he was actually  
20 taking the medication, and B, whether he was  
21 absorbing it. But we do know when he died he  
22 was iron deficient.

23 Q. Do you have any evidence that he  
24 wasn't taking his supplements?

25 A. I would say clinically given that his

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1 counts got better at least through January, I'm  
2 assuming he did take his supplements. After  
3 that I don't know either way.

4 Q. And if the evidence is that he was  
5 taking his supplements, do you have any  
6 explanation for why his counts didn't get  
7 better?

8 MR. GORDON: Other than the one he  
9 just gave?

10 Q. Go ahead.

11 A. I'm confused by the question. I said  
12 all his counts got better and he was left with  
13 just the mild anemia.

14 Q. But we're left with tissue at the end  
15 of the day that's showing iron deficiency,  
16 correct?

17 A. That's right.

18 Q. In your opinion?

19 A. Well, in Dr. Banks' opinion.

20 Q. It's your opinion that his tissue is  
21 showing some iron deficiency, yes?

22 A. Based on Dr. Banks' report, yes.

23 Q. Okay. Understood. And that would  
24 indicate, at least from January to his death,  
25 that his iron counts were not normal, right?

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1       A. The iron in his bone marrow was not  
2 normal, that's correct.

3       **Q. If he was taking supplements during**  
4 **that time period, as he was prescribed, do you**  
5 **know of a reason why he wouldn't be absorbing**  
6 **that iron through his bone marrow?**

7       A. Well, he was still pretty sick. I  
8 don't know whether he had an absorption issue  
9 or whether it was decreased intake that caused  
10 him originally to have the problem. After  
11 January we didn't have all of the blood counts.  
12 So for all I know, he may or may not have been  
13 copper deficient, vitamin A deficient and  
14 vitamin B-12 deficient in addition to the iron  
15 deficiency.

16       **Q. If I understand what you're saying,**  
17 **you're saying that the other deficiencies could**  
18 **cause the iron deficiency?**

19       A. Again, I'm not a vitamin expert. My  
20 recollection is that some of these vitamin  
21 deficiencies could potentially trigger the  
22 absorption of other ones. These specific ones,  
23 I don't recall. You asked me before about why  
24 he would have some nutrition issues. There  
25 were a couple things going on with him that we

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1 didn't explain. We know that he had some  
2 abnormality in his liver. Before you asked me  
3 whether this was cirrhosis. We know he at  
4 least had fibrosis.

5 He had some other medical issues that  
6 were going on and it's possible that that could  
7 be an explanation for a problem with  
8 absorption, in addition to or instead of a  
9 decreased intake issue.

10 **Q. Do you know if Mr. Batton had any**  
11 **symptoms from his liver disease?**

12 A. I know he was having problems with  
13 nausea. That's sometimes a symptom of liver  
14 disease. Whether that was related to his liver  
15 disease, I don't know.

16 **Q. Anything else?**

17 A. He had weight loss. I'm assuming that  
18 was due to nutritional issues. But liver can  
19 do that as well.

20 **Q. Anything else? I'm looking for**  
21 **symptoms from his liver disease?**

22 A. That's all I can think of offhand.

23 **Q. So it could be the weight loss. But**  
24 **we don't know?**

25 A. He had a lot of reasons for weight

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1 loss.

2 Q. Liver could have been one, may not  
3 have been one. You can't say for sure?

4 A. That's correct.

5 Q. The other was --

6 A. Nausea.

7 Q. Nausea?

8 A. There are a number of reasons why he  
9 could have had nausea.

10 Q. But we don't know if one of them was  
11 liver?

12 A. Right. And then he had issues with  
13 vomiting as well. And I sort of link that with  
14 the nausea.

15 Q. Understood. You note here -- going  
16 back to the deficiencies. I want to make sure  
17 I understand. If he was taking his  
18 supplements, his iron supplements, we really  
19 don't know why he was still iron deficient if  
20 he was taking his supplements?

21 A. Well, I have patients who are taking  
22 their iron supplements and I believe they are  
23 taking the supplements, and I still document a  
24 low iron level, then I know it's an absorption  
25 issue. Although I don't know why it's an



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1 absorption issue. By the way, one of the  
2 things I don't recall either way was what dose  
3 of iron he was prescribed. Maybe he was not  
4 taking enough of it to replete his iron. I  
5 would have to look at that.

6 **Q. Do you know how long he was prescribed**  
7 **iron supplements?**

8 A. In January he was still taking one  
9 iron tablet per day, which by the way, would be  
10 an insufficient dose for someone who is  
11 documented with iron deficiency. He should be  
12 taking at least three a day. What happened  
13 after January for any of these, I don't know,  
14 because we don't have any further follow-ups  
15 with Dr. Paustenbach to document what medicines  
16 he was prescribing or stopping.

17 **Q. Let me ask it this way: It is true**  
18 **that if he was having an absorption problem,**  
19 **you don't really -- you don't have an opinion**  
20 **as to why, true?**

21 A. Most of the time we don't know why.

22 **Q. And in this case you don't have an**  
23 **opinion as to why?**

24 MR. GORDON: Other than the ones he's  
25 already expressed.

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1       A. Sometimes there are interactions with  
2 these nutrients or other ones. He was  
3 obviously having a substantial problem with  
4 nutrition. So it may very well be that he was  
5 having an absorption problem because of a  
6 nutrition condition.

7       **Q. Dr. Shields, all I'm looking for are**  
8 **your opinions in this case. Do you have an**  
9 **opinion on whether he had an absorption**  
10 **problem?**

11       A. He had an absorption problem.

12       **Q. Have you reached an opinion based on**  
13 **reasonable medical probability as to what**  
14 **caused the absorption problem?**

15       A. In most cases we don't have that. In  
16 him we have some explanations. Whether they're  
17 the causes or not, I can't tell you for  
18 certain.

19       **Q. Moving down here in the second**  
20 **paragraph on Page 10. Again, this is your**  
21 **report. The last sentence says,**  
22 **"immunophenotyping is an important method for**  
23 **confirming the diagnosis of MDS, such as**  
24 **positive staining for CD34 and CD117." Did I**  
25 **read that right?**

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1 A. Yes.

2 Q. Now, there are different types of --  
3 or classifications of MDS according to WHO,  
4 correct, the World Health Organization?

5 A. Yes. We usually call it WHO.

6 Q. There are different classifications of  
7 MDS according to WHO?

8 A. Yes.

9 Q. And those are what?

10 A. What are the classifications?

11 Q. Yes.

12 A. Well, they're all derivatives -- I  
13 think I've got a table in here with the actual  
14 classification. So I can give them to you  
15 exactly.

16 Q. I can't read the one that's in my  
17 copy.

18 A. I thought I printed out another one  
19 for you.

20 Q. You can just tell me what they are?

21 A. There's -- do you want me to give you  
22 the initials?

23 Q. Yes.

24 A. There's a PRA, which is a refractory  
25 anemia; there's an RCMD, which is a refractory

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1 cytopenia with multilineage dysplasia. There  
2 is a PSA, which is a sideroblastic anemia. And  
3 there is an RSCMD, which is a refractory  
4 sideroblastic cytopenia with multilineage  
5 dysplasia. There's a 5Q minus syndrome. And  
6 there's two types of RAEB, which is refractory  
7 anemia with excess blasts.

8 Q. According to WHO, when is  
9 immunohistochemistry staining relevant?

10 A. In all of them.

11 Q. Based on your understanding of the WHO  
12 classification system, you believe that the  
13 immunohistochemical staining -- I'm looking at  
14 CD34 and CD117 -- is relevant to all of those  
15 classifications?

16 A. Sure. I mean, immunohistochemistry  
17 staining as a diagnosis of MDS is a routine  
18 clinical practice.

19 Q. I know you mention this in here, but  
20 is benzene a constituent or contaminant of  
21 mineral spirits?

22 A. Benzene has been reported to be  
23 present in mineral spirits at trace levels.

24 Q. I saw you had some citations or  
25 references, you referenced I think Paustenbach

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1 **article. Do you know Dr. Paustenbach?**

2 A. I've talked to him on the phone  
3 before. I might even have published with him.

4 **Q. What did you publish with him?**

5 A. I'd have to go back to my CV. I think  
6 we were working on a paper at one point. It  
7 would either be in my CV or not. If it's not  
8 there, then it's not published.

9 **Q. What was the paper about?**

10 A. I don't remember either way.

11 **Q. Was it funded by industry?**

12 A. I don't think I was -- you're really  
13 pushing my memory. Whether he was funded or  
14 not, I have no idea.

15 **Q. How long ago was it, if you recall?**

16 A. It would be several years ago. I may  
17 be mixing him up entirely in terms of that  
18 paper. But I have talked to him on the phone  
19 at least once before.

20 **Q. What did you talk to him about?**

21 A. It was a litigation case.

22 **Q. Were you both experts in the same**  
23 **case?**

24 A. I was an expert in the case. I don't  
25 recall whether he was or wasn't.

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1 Q. What was the case about?

2 A. I don't remember.

3 Q. You don't remember the constituent or  
4 anything like that or the disease?

5 A. No.

6 Q. Have you ever heard that  
7 Dr. Paustenbach has an industry bias in his  
8 publications?

9 A. I have read his publications before.  
10 I would not necessarily classify him as an  
11 industry bias.

12 Q. I'm just asking if you've heard that  
13 he has an industry bias reputation, from  
14 anybody?

15 A. I certainly haven't heard that from my  
16 peers, no.

17 Q. Have you heard it from anybody?

18 A. Not that I recall. I guess I have  
19 now.

20 Q. I didn't say that. I just asked if  
21 you had heard it. Have you asked your peers  
22 about Dr. Paustenbach's reputation?

23 A. Not that I recall, no.

24 Q. Do you know if he's ever had any  
25 studies pulled from publications because of

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1 improper ghost writing?

2 A. I don't know either way, no.

3 Q. Did you do an extensive literature  
4 review on how much benzene would be in mineral  
5 spirits?

6 A. I pulled a couple of papers on it. I  
7 wouldn't necessarily call it an extensive  
8 review, but the documents that I looked at were  
9 consistent with each other, so I relied on  
10 them.

11 Q. Are those listed in your references?

12 A. Yes.

13 Q. You didn't do an extensive literature  
14 review of how much benzene is in mineral  
15 spirits?

16 A. No. My understanding was that the  
17 amount of benzene in mineral spirits were  
18 controlled since at least the '70s to extremely  
19 low levels.

20 Q. Have you read Dr. Kopstein's  
21 deposition?

22 A. No.

23 Q. Do you know who he is?

24 A. I understand he's one of the plaintiff  
25 experts in this case.

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1 Q. Do you know if he's given a deposition  
2 in this case?

3 A. No.

4 Q. Do you know what his opinions are in  
5 this case?

6 A. No.

7 Q. Do you know if he's published how much  
8 benzene has been in mineral spirits  
9 historically?

10 A. I believe there was a paper by him in  
11 the list of papers that the plaintiffs are  
12 relying on. It was given to me by Mr. Gordon.  
13 I don't even recall the title or the subject of  
14 the paper. But I'm assuming that that has some  
15 relevance to this.

16 Q. My question is do you know if he's  
17 published in the area of benzene levels in  
18 mineral spirits?

19 A. What I know is that paper, which may  
20 or may not be the subject of what you're  
21 talking about.

22 Q. So you don't know the subject matter  
23 of that paper?

24 A. I'm vaguely picturing the title, and I  
25 think it was. But I may be wrong.



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1 Q. Did you read that paper?

2 A. No.

3 Q. Why not?

4 A. I just didn't.

5 Q. Wouldn't that provide some information

6 for you on benzene levels historically in

7 mineral spirits?

8 A. I don't know what's in the paper. So

9 I can't answer that question.

10 Q. I'm sorry. I thought you said the

11 title indicated to you that it might have

12 some --

13 A. I'm vaguely recollecting that the

14 title was -- I don't remember. For some reason

15 it didn't appear that I needed to read that for

16 this.

17 Q. So you didn't consider his testimony

18 or his opinions at all?

19 A. That's correct.

20 Q. On Page 11 you say here "importantly,

21 there is no evidence that Mr. Batton was

22 exposed to benzene." Did you write that?

23 A. Yes.

24 Q. Did that come from any lawyer or

25 anything like that, to your recollection?

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1 A. No, I didn't see any evidence in this  
2 case that he was exposed to benzene.

3 Q. If he was exposed to mineral spirits,  
4 would that expose him to benzene?

5 A. To trace levels of benzene.

6 Q. So it would be benzene, it would be  
7 trace levels of benzene if he was exposed to  
8 mineral spirits?

9 A. If he was using mineral spirits, there  
10 is a possibility that he would be exposed to trace  
11 levels of benzene.

12 Q. Why would it only be a possibility?

13 A. The levels are so small, who knows  
14 whether any of it would have gotten into his  
15 body.

16 Q. What are the levels?

17 A. We can refer to some of the articles.  
18 But it's .01 percent or something like that.

19 Q. In the '70s?

20 A. I believe it was controlled back to  
21 the '70s. There's are some papers there that I  
22 can refer to.

23 Q. Yes. Why don't you take a look? I  
24 want to know which article specifically you're  
25 relying on for that proposition.

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1 A. So this is a 2008 paper that was just  
2 recently published by Amoruso.

3 Q. Is that the ChemRisk, the Paustenbach  
4 article?

5 A. No, Paustenbach is not an author on  
6 this paper. And this was cited in my report.  
7 It says here the specification for benzene  
8 content in mineral spirits is usually less than  
9 .1 percent, but in practice benzene levels are  
10 typically below 0.005 percent due to refining  
11 and distillation techniques. It goes on to say  
12 there have been several publications dealing  
13 with current and historical information on  
14 benzene levels and mineral spirits, and he  
15 cites Carpenter 1975, which has levels at .1  
16 percent, another paper by Carpenter in '77, a  
17 study by Patel working for the Consumer Product  
18 Safety Commission that said that in '77 typical  
19 levels of benzene in mineral spirits were in  
20 the range of 0.01 percent to 0.03 percent. And  
21 then it goes on.

22 Q. And this one is in International  
23 Journal of Toxicology, yes?

24 A. That's correct, 2008.

25 Q. And paid for by Exxon, right?

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1 A. Well, some of the authors are cited as  
2 working for Exxon. Whether they paid for it or  
3 not --

4 Q. Have you looked at it to find out?

5 A. Actually, no, it was not funded by  
6 Exxon. It was funded by the American Chemistry  
7 Council Hydrocarbon Solvents panel, whose  
8 members include several companies, including  
9 Exxon. But it was actually funded by the  
10 American Chemistry Council Hydrocarbon Solvents  
11 panel.

12 Q. Do you know who the American Chemistry  
13 Council is?

14 A. I believe that's an association.

15 Q. Of companies --

16 A. Presumably, yes.

17 Q. -- that make products that contain  
18 benzene?

19 A. That's correct.

20 Q. Did you consider that at all in how  
21 reliable that paper was or was not?

22 A. The paper is citing -- often I will  
23 look at what review papers conclude and decide  
24 whether I agree or disagree with them. But I'm  
25 more interested to see what literature they

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1 cite. Here they are citing papers that have  
2 been funded by the federal government, U.S.  
3 Consumer Product Safety Commission. So I would  
4 find that more relevant.

5 **Q. Do you consider if a paper is funded**  
6 **by an interested party whether the conclusions**  
7 **are reliable when you read something like that?**

8 A. Not really. I'm more interested to  
9 look at the data and make a conclusion whether  
10 or not the conclusions follow the data. And  
11 that could be -- I could agree or disagree no  
12 matter who the funding party is.

13 **Q. Is it safe to say that you're not an**  
14 **expert in the historical concentration of**  
15 **benzene in mineral spirits, but you're relying**  
16 **on these papers for that part of your opinion?**

17 A. That's correct. I'm not a chemist.

18 **Q. Can you turn to Page 12, please?**

19 A. Yes.

20 **Q. You talk about alcohol drinking and**  
21 **vitamin A deficiency here, is that correct, and**  
22 **that relationship?**

23 A. Are you talking about the last  
24 sentence?

25 **Q. I'm talking about the paragraph that**

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1 starts vitamin A is a dietary nutrient?

2 A. Yes, there's some discussion of  
3 alcohol consumption.

4 Q. Is it your opinion that Mr. Batton's  
5 alcohol drinking that ended approximately ten  
6 years before his death in any way contributed  
7 to his vitamin A deficiency?

8 A. No, I don't think so.

9 Q. The next part talks about copper  
10 deficiency. Do you see that?

11 A. Yes.

12 Q. Was he on supplements for copper?

13 A. After he was diagnosed with a copper  
14 deficiency, yes.

15 Q. And if he took those supplements --  
16 strike that. Do you know if he died copper  
17 deficient?

18 A. I don't know either way.

19 Q. And vitamin B-12, do you know if he  
20 died B-12 deficient?

21 A. I know that he stopped his shots some  
22 time around January. Vitamin B-12 actually  
23 stays in the body for a very long time. But by  
24 April I can't tell you either way. He probably  
25 had -- actually I don't know either way.

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1 Q. The next part is methodological  
2 approaches to individual risk assessment. Did  
3 I read that right?

4 A. That's right.

5 Q. Correct me if I'm wrong, but my belief  
6 is this isn't the first time this has been used  
7 in a litigation case, is that true, this  
8 section?

9 A. Well, it certainly was revised for  
10 this. This section has been or derivatives of  
11 it have been used in litigation as well as  
12 publications.

13 Q. I assume that went all of the way  
14 through here to Page 21 where it talks about  
15 railroad work.

16 A. I'm sorry. What's your question?

17 Q. My question is all of this  
18 information -- strike that. That's a good  
19 point. Let's do it this way, starting on Page  
20 12 at the bottom where it has the title  
21 through -- let's stop on Page 15. I want you  
22 to tell me what was changed from the previous  
23 report. I know I see Mr. Batton's name a few  
24 times.

25 A. I don't think I can tell you what's

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1 been changed.

2 Q. So let's do it this way, then: The  
3 first paragraph under that title on Page 12, it  
4 goes through about half of Page 13, the last  
5 sentence in that paragraph says in this case,  
6 right?

7 A. I see that.

8 Q. And then it says what it says. Did  
9 you add this sentence to this paragraph? Let  
10 me ask it better. Have you used any part of  
11 this first paragraph before in a different  
12 report?

13 A. Yes.

14 Q. How much of that first paragraph did  
15 you use in a different report?

16 A. The concepts are certainly in probably  
17 every case that I'm dealing with specific  
18 causation. How much of the paragraph is  
19 different versus the same, I can't answer you.

20 Q. So did you retype all of this when you  
21 started Mr. Batton's report?

22 A. No. Generally I will cut and paste it  
23 from some other report and revise it.

24 Q. Do you know which part you cut and  
25 pasted out of here and -- cut out of a



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1 different report and pasted it into

2 Mr. Batton's report?

3 A. I would cut out the section and then  
4 revise it as appropriate to this case.

5 Q. So you cut out, I assume starting with  
6 the title on Page 12 to some point. Do you  
7 know what point it ended?

8 A. No.

9 Q. What kind of case did you take it out  
10 of?

11 A. I don't remember which case I took  
12 this out of.

13 Q. Was it another railroad case?

14 A. I don't know.

15 Q. On Page 15 you see the part that says  
16 target organ specificity?

17 A. Yes.

18 Q. Did you take that from a different  
19 case?

20 A. That's often an issue in other cases.  
21 So the concepts certainly come up in other  
22 cases and I would have started off cutting and  
23 pasting and tailoring it specifically to this  
24 case.

25 Q. Is that relevant for this case?

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1 A. Absolutely.

2 Q. The last sentence says, for any of the  
3 chemicals at issue in this case, as listed  
4 below, there's insufficient evidence to  
5 indicate that these are multi-organ  
6 carcinogens, and almost all lack sufficient  
7 evidence for cancer risk in humans. What  
8 chemicals were you talking about in  
9 Mr. Batton's case?

10 A. Mineral spirits, which is composed of  
11 a number of different chemicals, benzene. So  
12 solvents, mineral spirits and benzene.

13 Q. Are you aware of any allegations that  
14 this multi-organ carcinogen, what any of them  
15 would be?

16 A. I noticed on Dr. Omalu's list of  
17 references that he provided, some of them had  
18 absolutely nothing to do with hematologic  
19 malignancies. So I was anticipating an  
20 allegation on his part that every chemical  
21 could cause cancer anywhere in one organ, then  
22 it can cause cancer in any organ.

23 Q. Are you aware of that opinion being  
24 made?

25 A. I don't recall whether Dr. Omalu

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1 ultimately did or didn't.

2 Q. So the inclusion of that sentence  
3 wasn't a mistake on your part. You were  
4 actually thinking it was relevant to the issues  
5 in this case?

6 A. Absolutely.

7 Q. On Page 17, I think you start some  
8 discussion about lung cancer. The third  
9 paragraph there, the last sentence says this is  
10 thought; do you see that?

11 A. Yes.

12 Q. There's a cutoff. I assume again that  
13 you took this piece from another case, true?

14 A. Yes, that's true. And it was tailored  
15 to Mr. Batton's case.

16 Q. Let's go to the first paragraph, if we  
17 could. The third sentence starts, it is  
18 instructive to consider the scientific data for  
19 smoking and lung cancer, to place into context  
20 the allegation made by plaintiff's expert. Did  
21 I read that right?

22 A. Yes.

23 Q. Did you type that for this case or was  
24 that already in there?

25 A. Again, I would have cut and pasted it

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1 and then revised it. So I don't think I can  
2 answer your question.

3 Q. But you still have what you cut and  
4 pasted it from on your computer at home, true?

5 A. That's correct, if I could figure out  
6 which one it was, yes.

7 Q. So going back to the third paragraph,  
8 you saw the cutoff part there?

9 A. Yes.

10 Q. What happened there?

11 A. It was probably as I was tailoring it  
12 I didn't cut off the whole sentence, or maybe  
13 it looks more like I accidentally cut off the  
14 rest of the sentence.

15 Q. When you were in the process of  
16 cutting and pasting and tailoring, something  
17 got cut off?

18 A. Yes. I was in the process of editing  
19 it.

20 Q. At the top of Page 17 you talk about  
21 latency?

22 A. Yes.

23 Q. I'm going to give you a hypothetical.  
24 If Mr. Batton was exposed to benzene at  
25 sufficient levels to cause MDS in the '70s and

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1 early '80s and was diagnosed with MDS in 2007,  
2 would that be a sufficient latent period for  
3 that disease?

4 MR. GORDON: Objection to both parts  
5 of the hypothetical question.

6 A. So given that he is alleged to have  
7 been exposed to benzene between about '73 and  
8 '83.

9 Q. Right.

10 A. And you're asking me to assume without  
11 evidence, so it's a hypothetical, that he was  
12 exposed to some substantial amounts of benzene  
13 that could cause some types of MDS, is the  
14 latency period from '73 to '83 and he gets  
15 diagnosed in 2008 with MDS.

16 Q. Right.

17 A. Is that a plausible latency period?

18 MR. GORDON: The assumption is someone  
19 in 2007 diagnosed him with MDS.

20 A. The hypothetical is that latency  
21 period from '73 to '83 with exposure to  
22 substantial benzene, is it reasonable to have a  
23 latency period such as one gets diagnosed in  
24 2007, the answer is no.

25 Q. Is it too long or too short?

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1 A. I would expect that someone with  
2 substantial exposure to benzene would have been  
3 diagnosed earlier.

4 Q. What is the appropriate range of  
5 latency for somebody who is exposed to enough  
6 benzene to cause MDS?

7 A. I don't think we know that for MDS  
8 from the benzene studies.

9 Q. So how can you say that it's an  
10 inappropriate --

11 A. Actually, I'm basing it on leukemia  
12 studies.

13 Q. So then is it your opinion that you  
14 don't know what the appropriate latency period  
15 would be for benzene and MDS, true?

16 A. We don't know specifically for MDS.  
17 In general we know that hematologic  
18 malignancies after exposure, for example, to  
19 some chemotherapies or radiation, the latencies  
20 tend to be shorter, and I would think from a  
21 '73 start date to 2008 would be a long time,  
22 even for leukemia, but I do stand corrected  
23 from before, for MDS we don't have that data  
24 either way.

25 Q. So you don't have an opinion on what

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1 the appropriate latency period would be for  
2 benzene exposure causing MDS, true?

3 A. I'm making an assumption that it's  
4 somewhat similar to leukemias, but in fact,  
5 MDSs are much more slowly progressive. So it  
6 may be that my assumptions are incorrect.

7 Q. What is it for leukemia?

8 A. I would have to go back to the papers,  
9 look at the Pliofilm cohort or Askoy's shoe  
10 workers to give you exact ranges. I don't  
11 recall offhand.

12 Q. But you think it's shorter than 35  
13 years?

14 A. I recall that most people are  
15 diagnosed within 35 years. But it really gets  
16 very difficult because in an individual study  
17 you don't really know who got their leukemia  
18 related to a substantial exposure to benzene or  
19 not. So it's very difficult to say for an  
20 individual whether you have a latency period  
21 consistent with the literature or not. It just  
22 seems long to me for Mr. Batton, assuming that  
23 he had MDS, which I don't think he did.

24 Q. In this case for your opinions did you  
25 assume that Mr. Batton's testimony was accurate

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1 as far as his exposure goes?

2 A. Yes.

3 Q. In your report there's nothing here  
4 about the etiology of his neurological illness.  
5 Are you giving opinions on either the form or  
6 etiology of Mr. Batton's neurological illness  
7 in this case?

8 A. Mr. Gordon didn't ask me to comment on  
9 his neurological illness. Of course I can't  
10 control what you will ask me.

11 Q. You were not asked to form opinions on  
12 that?

13 A. That's right. I was not asked by  
14 Mr. Gordon to form opinions on that.

15 MR. FRIELING: Let's take a short  
16 break.

17 (Recess.)

18 BY MR. FRIELING:

19 Q. Doctor, I just want to make sure I've  
20 got a clear picture of what it is you've  
21 reviewed in the case. Your report alludes to  
22 some CSX records?

23 A. That's right. I had Mr. Batton's CSX  
24 records. That included medical reports.

25 Q. So his personnel records?



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1 A. Yes.

2 Q. To the extent you know. Do you know  
3 if you had any documents that would have shown  
4 what materials he used or was exposed to?

5 A. I don't have documents --

6 Q. CSX documents?

7 A. Yes, I don't have any CSX documents  
8 that say that he was exposed to anything.

9 MR. GORDON: Are you asking about  
10 surveys?

11 MR. FRIELING: No.

12 Q. I'm asking if you were given any  
13 specifications on the different types of  
14 cleaners that were available for use?

15 A. No, I don't have any documents that  
16 show that he was working with any cleaners.

17 Q. That's not what I asked you. My  
18 question was did you receive any documents that  
19 were specifications of the different kinds of  
20 cleaners?

21 A. Of any type of cleaners at all?

22 Q. Yes, that he may have used?

23 A. It's my understanding from them that  
24 he didn't use cleaners.

25 Q. From whom?

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1 A. From Mr. Gordon.

2 Q. Mr. Gordon told you that Mr. Batton  
3 didn't use any cleaners in his job?

4 A. If I understood him correctly, that is  
5 the case.

6 Q. Let's talk about that. Did he tell  
7 you that Mr. Batton was lying in his  
8 deposition?

9 A. Actually, I didn't ask either way.

10 Q. What was your response to Mr. Gordon  
11 when he told you that he didn't believe  
12 Mr. Batton used cleaners in his job?

13 A. My response to him was the same  
14 response that I gave to you. I'm relying on  
15 Mr. Batton's testimony.

16 Q. So my original question was did you  
17 receive any specification of any cleaners that  
18 Mr. Batton identified in his deposition?

19 A. Meaning mineral spirits?

20 Q. Any.

21 MR. GORDON: He didn't identify any in  
22 his deposition.

23 MR. FRIELING: I think he did. Didn't  
24 he say solvents?

25 MR. GORDON: No. He said something

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1 that smelled like gasoline and was yellow.

2 Q. Let me ask you a different question.

3 We talked earlier in this deposition about  
4 different cleaners that were used at the  
5 railroad?

6 A. You asked me whether I knew what was  
7 used at that particular yard and I said I  
8 didn't know.

9 Q. Did you see any specifications for  
10 mineral spirits at the Hamlet Yard?

11 A. No.

12 Q. How about alkaline cleaner?

13 A. No.

14 Q. Was any of that provided to you?

15 A. No.

16 Q. We talked about the depositions that  
17 you read. Were you provided any depositions  
18 that you did not read?

19 A. I don't think so.

20 Q. Do you know?

21 A. I just said I don't think so.

22 Q. Do you know for sure?

23 A. I don't think so.

24 Q. And you were provided the little  
25 summary sheet that the lawyers created, yes, of

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1 exposure; that's Exhibit 4, right?

2 A. Yes.

3 Q. And you're not relying on that for any  
4 reason, right?

5 A. Right.

6 Q. And then you were provided with some  
7 expert reports and I think we went over that.  
8 You were provided with Mr. Batton's affidavit,  
9 right?

10 A. That's correct.

11 Q. And you were provided with his medical  
12 records, true?

13 A. That's right.

14 Q. Anything else?

15 A. I was provided with a medical report  
16 summary.

17 Q. Is that here?

18 A. No. And I think that's it.

19 Q. And then I had a question concerning  
20 benzene exposure and MDS and benzene exposure  
21 and leukemia. I want to know what your opinion  
22 is, what dose is required of benzene to cause  
23 MDS?

24 A. I mean, it's hard for me to quantitate  
25 it. Certainly there are estimates in the

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1 literature of the doses that are needed.

2 Usually not for MDS. Usually specific for

3 leukemia and people tend to lump them together.

4 From my perspective, when I approach a

5 case like this, I look at the type of work that

6 people do, as studied in the literature, and

7 compare it to what is being done in the

8 individual such as Mr. Batton. When I look at

9 studies like Pliofilm workers or shoe

10 manufacturers in Turkey and that sort of thing,

11 and when I look at those exposures when they

12 were working with products that were either

13 benzene or 30 percent benzene and I compare it

14 to the worst allegation here which is mineral

15 spirits, which is something much less than one

16 percent, then I know that we've got a huge gap

17 in exposure levels, such that it makes it

18 unlikely that Mr. Batton would have had

19 sufficient exposure to benzene. Plus I'm able

20 to look at literature about mineral spirits and

21 the types of work that he was doing to form

22 opinions. When you talk about specific doses

23 it gets pretty tricky to provide those

24 estimates.

25 MR. FRIELING: Objection.

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1 Non-responsive.

2 Q. I just want to know if you have --  
3 we'll do it quantitatively. Do you have a  
4 quantitative dose that Dr. Shields requires  
5 before you'll link benzene exposure to an MDS?

6 A. I think it's difficult to do it that  
7 way. But offhand, no.

8 Q. The same for leukemia?

9 A. That's correct.

10 MR. FRIELING: I'm going to request  
11 the doctor's file, and pursuant to receiving  
12 and reviewing that, I don't have any further  
13 questions.

14 MR. GORDON: Do you have another copy  
15 of his medical records? You all have that  
16 summary of your client's medical records.

17 MR. FRIELING: I want to know  
18 specifically when it was sent. That's what I  
19 want to know. If you want to send me a list of  
20 these are all the documents Bates labeled that  
21 he was sent, I can tell you what I want. My  
22 problem is he was sent some CSX documents. I  
23 want to know which ones.

24 MR. GORDON: He's covered it with you.  
25 But if you have more questions, I'll get with

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1 you and tell you exactly what they are. I  
2 can't sit here and tell you that.

3 MR. FRIELING: I'm just saying I get  
4 to know what he was sent.

5 MR. GORDON: That's fine. If you need  
6 to talk to him more about it, we'll get him on  
7 the phone.

8 MR. FRIELING: I don't know that I  
9 will. But pursuant to that, we're through.

10 THE WITNESS: I'll sign it.

11 THE REPORTER: What would you like?

12 MR. FRIELING: Original and condensed.

13 MR. GORDON: That's fine.

14 (Whereupon, the deposition was concluded  
15 at 12:15 p.m.)

16 \* \* \*

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CERTIFICATE OF DEPONENT

I hereby certify that I have read and examined the within transcript, and the same is a true and accurate record of the testimony given by me.

Any additions or corrections that I feel are necessary, I will write on a separate sheet of paper to the original transcript.

---

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1 STATE OF MARYLAND  
COUNTY OF BALTIMORE

2  
3 I, Linda A. Crockett, a Notary Public  
of the State of Maryland, do hereby certify  
4 that the within named, PETER G. SHIELDS, M.D.,  
was deposed at the time and place herein set  
5 out, and after having been duly sworn by me,  
was interrogated by counsel.

6  
7 I further certify that the examination  
was recorded stenographically by me, and this  
transcript is a true record of the proceedings.

8  
9 I further certify that the  
stipulations made herein were entered into by  
counsel in my presence.

10  
11 I further certify that I am not of  
counsel to any of the parties, nor an employee  
of counsel, nor related to any of the parties,  
12 nor in any way interested in the outcome of  
this action.

13  
14 As witness my hand and notarial seal  
this 2nd day of October, 2008.

15 My commission expires: December 1, 2008

16  
17  
\_\_\_\_\_  
Notary Public

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(Attached.)

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